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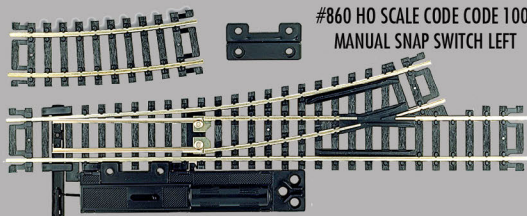
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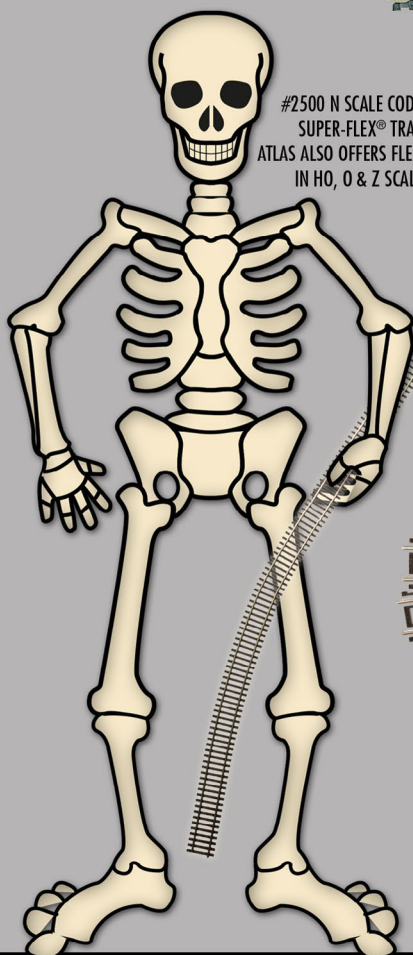
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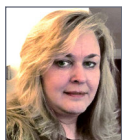


Model Railroad Hobbyist | October 2020 | #128

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and Editor



Patty Fugate, Pasteup
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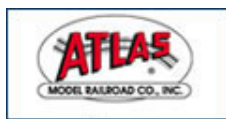
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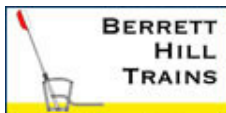
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Publisher's Musings: New MRH website coming

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MRH Website this month: Kitbash Canadian Pacific GP35s ...

Compiled by JOE FUGATE



What's Neat: Scenery from start to finish

KEN PATTERSON



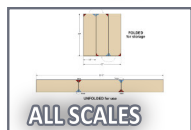
Model railroad running stand speedometer

GARY WINTERGERST



TrainMaster TV's new game plan

JOE FUGATE



Model railroading on the go with storable modules

TIMOTHY DUDLEY



First Look: Rechargeable soldering iron

JEFF SHULTZ



Savvy Modeler online: Awesome diesel weathering

Compiled by the MRH STAFF



October 2020 news and events

RICHARD BALE and JEFF SHULTZ



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October 2020



Publisher's Welcome: Perfectly square magnetic jig ...

JOE FUGATE



Limited Modeler: Clyde, Ohio, a town you can model

JIM SIX



Getting Real: Modeling Powell Feed & Milling

NICK MUFF



Chesapeake Western and Kankakee

YARON BANDELL



Modeling with the Wondercutter S

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Better layout duck-unders

JACK BURGESS



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In



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PUBLISHER'S MUSINGS



Editorial | Model Railroad Hobbyist | October 2020

JOE FUGATE: ANNOUNCING
THE ALL NEW **MRH** WEBSITE ...



RATE THIS ARTICLE

WE LAUNCHED *MRH* IN JANUARY 2009 USING THE SAME forum software we're using now. We're going on 12 years with this same software, which in the web world is several generations – in other words, it's quite obsolete.

When we started *MRH*, flip phones were all the rage and tablets did not exist. Windows XP still ranked as the leading Windows OS and a PC with 4GB of RAM memory was considered huge. We still measured hard disk space in gigabytes – a terabyte, what's that?

At 12 years and counting, our *MRH* forum software really shows its age. Back-end failures such as our private messaging between members keep mounting, clear signs we're overdue for a major upgrade.

Our current site software pre-dates mobile devices, so it's not particularly mobile-friendly, either. Time to change all that.

Brand new *MRH* website coming

So it's official, we're starting the process of moving to a brand new, state of the art website.

The old website uses open-source website building software called Drupal. We're still on Drupal 6 since that was new at the time. The newest robust release of Drupal is version 8.

However, in modern terms, Drupal ranks as a pretty heavy-weight system and it needs a lot of web horsepower to run. It's also graduated out of its open source status for high-traffic websites to more enterprise level hosting. In short, not cheap.

So for our new *MRH* website, we're moving to "subdomains" for the various parts, none of which use Drupal. The new main site domain will officially become ***mrhmag.com***, shortened from our old site URL of ***model-railroad-hobbyist.com***.

We already started this new subdomain thinking with our store a few years ago, so its URL is ***store.mrhmag.com***. Notice, *store* is the subdomain, yet it's clearly still a part of *mrhmag.com* as a whole.

Subdomains allow us to easily break up our site functionally to best-of-class, more nimble, focused servers that cost less.

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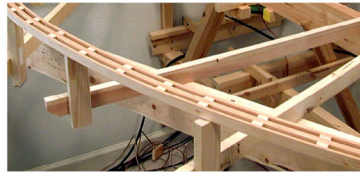
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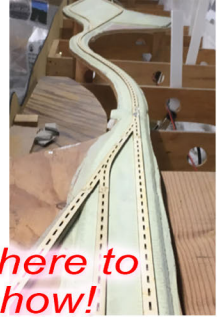


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PUBLISHER'S MUSINGS | 3

The new *MRH* forum

For the rest of this editorial, I want to focus on one of the more fun new subdomains, *forum.mrhmag.com*. The new software driving this site is ready, but we won't be ready to use it until we export all the data over from our current forums.

This new forum website does exist, but it's invitation only. The developers are currently building the software to move the ~50,000 threads from the current *MRH* forum to this new site.

Anything posted on this new test forum will be deleted when we load it with the real data, so it's locked down right now. We expect the migration software development to take about 90 days.

This new forum software has a lot of fun new features, so let's take a sneak peek at some of those.

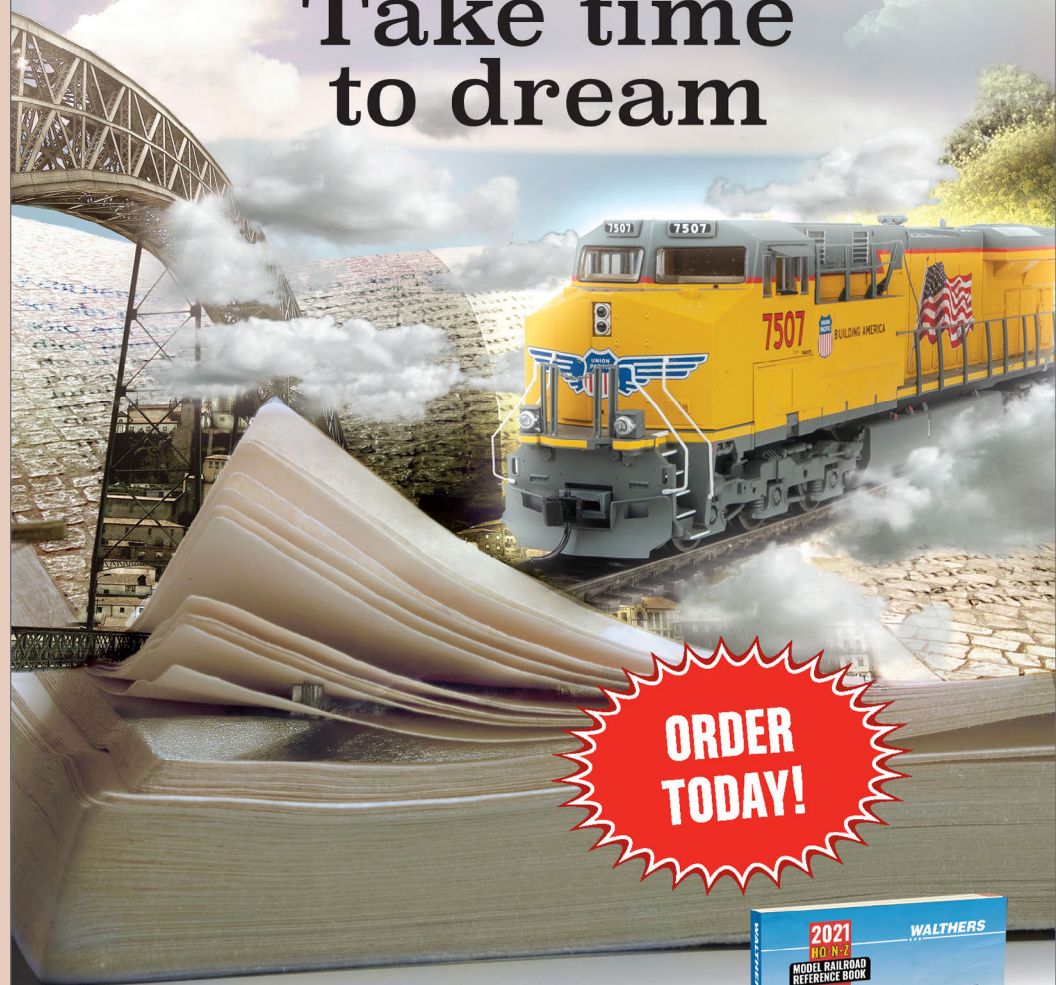


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The new forum looks great on desktops, laptops, tablets and smartphones [1]. It smart resizes everything to fit the screen size you're using.

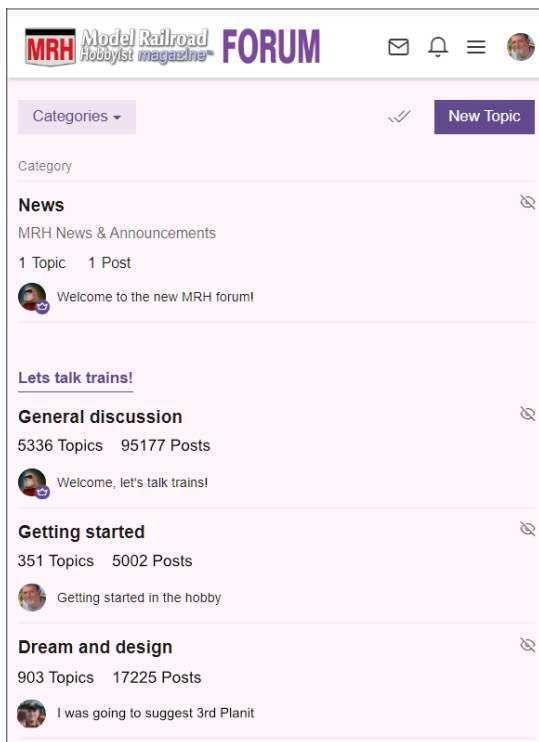
If there's a particular category of discussions that just isn't interesting, you can hide it by selecting the eyeball icon.

If someone private messages you, the little letter icon at the top will be marked with a purple dot indicating you have a private message waiting. You will also get an email with the message. Yay, private messaging that finally works!

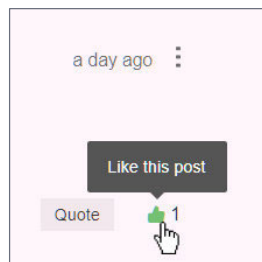
Also note that if someone private messages you and you do not want to talk to them, you can check mark ignore so they can't keep messaging you.

There's more, lots more!

We're finally enabling you to like a post or thread [2]. We aren't doing dislikes, just likes. If you don't like a post, then just move on, don't bother liking it. This should eliminate most of the more unfriendly aspects of a like system.



1. Sneak peek look at the new **MRH** forum coming in 2021. This view shows how it looks on a smartphone.



2. You can like a thread or post.



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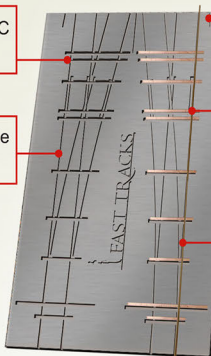
★★★★★

Precision milled pockets accommodate PC Board ties that are soldered to the rails.

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Track slots ensure perfect alignment while soldering the rails to the PC Board ties.

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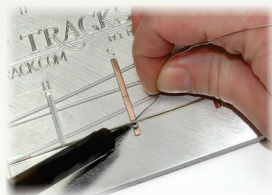
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Rails are inserted into the fixture right side up, making it easy to confirm alignment.

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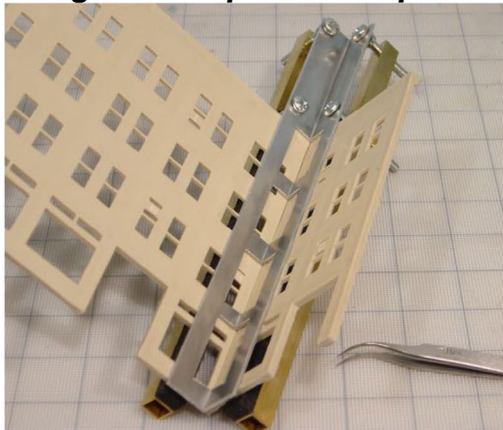
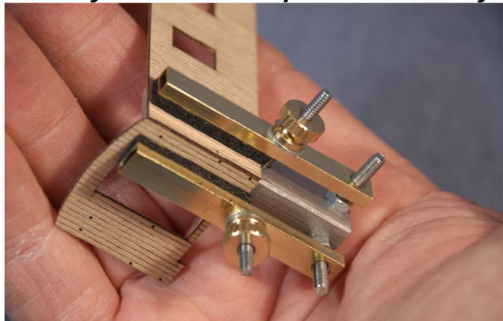
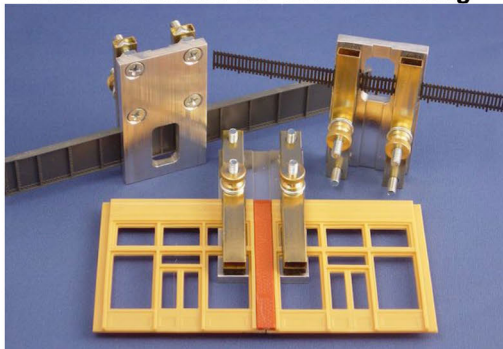
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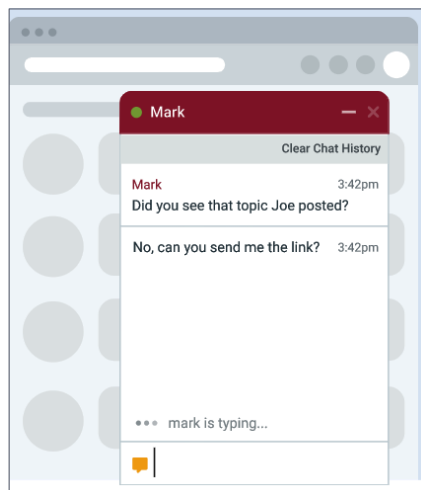
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The new forum also includes instant chat [3]. If some key discussion comes up and you'd like to do an improptu chat with the folks online about it, you can fire up a quick chat.

You can indicate how you want to be contacted for chat, via Facebook messenger, for example. There are about 20 different choices for how to be contacted for a chat. If you don't like chat, you can quietly go "offline" and be unavailable.



3. The new *MRH* forum includes the ability to instant chat with those online.

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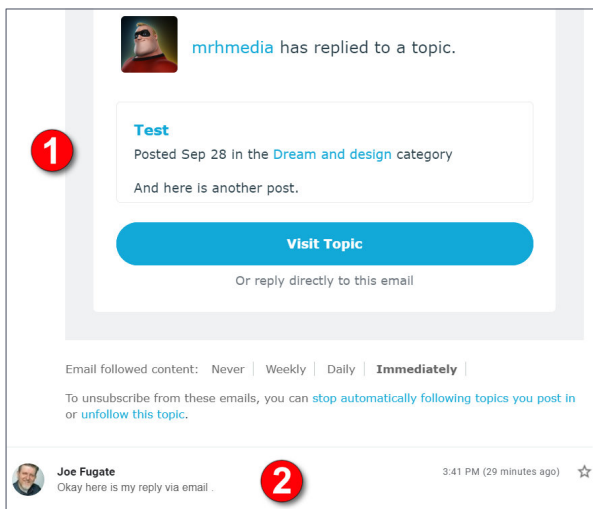
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When you follow topics of interest, you now will get an email any time a new post appears on the topic. In addition, you can reply via email and the reply will be posted back to the forum thread [4, 5]. How cool is that?

Simplifying the forum

One thing we will be doing with this change is simplifying some things on the current forum that have been confusing.

Blogs will no longer be a “separate thing” on the *MRH* website. If you want to do a personal blog, you can start a thread in a category called “blogs” and it will just be another forum topic, except we will treat it as if it’s a topic you own. All the old blog posts will be



1

mrhmedia has replied to a topic.

Test
Posted Sep 28 in the [Dream and design](#) category

And here is another post.

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Or reply directly to this email

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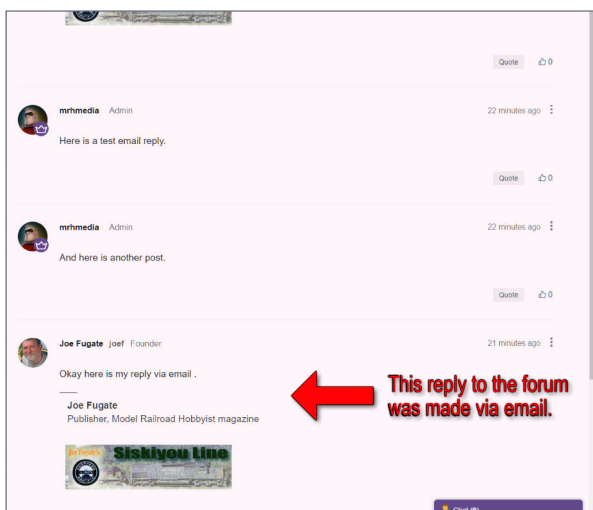
To unsubscribe from these emails, you can [stop automatically following topics you post in](#) or [unfollow this topic](#).

Joe Fugate
Okay here is my reply via email .

3:41 PM (29 minutes ago) ☆

2

4. In (1) above, I got notified of a reply by the admin on a topic I had started. I clicked reply and posted my response in (2) above. Below in [5], you can see what showed up on the forum.



Quote 0

mrhmedia Admin
Here is a test email reply.

22 minutes ago

Quote 0

mrhmedia Admin
And here is another post.

22 minutes ago

Quote 0

Joe Fugate Joe Founder
Okay here is my reply via email .

21 minutes ago

Joe Fugate
Publisher, Model Railroad Hobbyist magazine

This reply to the forum was made via email.

Chat (0)

5. My reply via email got posted on the forum just as if I logged in and posted it.



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added to the new Blog forum category. There will no longer be a special type of blog section per se, it's just a kind of forum category now.

The *MRH* feedback threads will also be moved to the new site, and as new issues come out, they will point to the new *MRH* forum now.

However, the bad news is all old *MRH* magazine comment buttons will no longer work because the URL will no longer be the same. Unfortunately, there's no easy way to handle this, about all we can do is re-issue back issues with corrected comment thread links, which we will probably do over time.

We also have a lot more cool new things coming to other subdomains such as ***mrh.mrhmag.com*** – an *MRH* magazine back issue bookshelf, and ***re.mrhmag.com*** – a *Running Extra* back issue online bookshelf for *Running Extra* subscribers.

In summary, the *MRH* web presence will be getting a major new facelift in 2021. Not only will things get a fresh new look and enhanced functionality, this change simplifies our back-end support and reduces our hosting costs too.

A real win-win in this era of belt-tightening during the pandemic. ☒

Did you see this article?

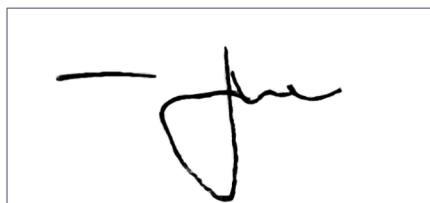


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LAST ISSUE'S RATINGS

The three top-rated articles in the [September 2020 issue](#) of *Model Railroad Hobbyist* are:

4.9 September 2020 news

4.7 Publishers Musings: High-density car weighting

4.6 Fiber optic structure lighting

Issue overall: **4.4**

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THIS MONTH

Model Railroad Hobbyist | October 2020

Compiled by **JOE FUGATE**



RATE THIS ARTICLE



BLAST FROM THE PAST: Kitbash two Canadian Pacific GP35s

MRH forum member **Lucky_Luke** (Luc Comtois) posted years ago:

"I had a deal on a pair of Athearn RTR Canadian Pacific GP35s. At first I thought that a good weathering job and a few details here and there was all they needed. But when I started to look for some prototype reference pictures, it doesn't take long to realize that these CP models are all wrong.

My easy project became a bigger one, so I thought I would share the progress."

Even though this is an older thread, it's still a great read!

[View the full thread on the MRH website](#)



MRH'S MONTHLY GREAT MODELER POSTS



1. Jason Miller posted a video showing the latest updates to his Seaboard Central layout. Jason posts these updates every month or so, and it's great to see the progress!

Re-installed and updated fascia panels

MRH forum member **JLandT Railroad** (Jason Miller) posted a nice update on his layout fascia panels.

Jason documented the installation of signals on his layout in the October, November, and December 2018 issues of *MRH* magazine.

After installing the signals, Jason found his fascia panels were no longer totally accurate and up-to-date. So he embarked on a project to revamp all his fascia panels.

Read more about Jason's updates on this project in the *MRH* website blog link below. Feel free to ask him questions!

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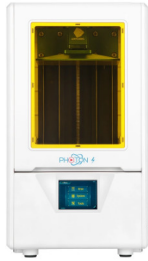
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2. On his multi-part blog series, James Willmus did an in-depth analysis of state-of-the-art affordable 3D resin printers.

Latest-and-greatest DIY 3D printing evaluation blog

Forum member **JamesWillmus** has posted a multi-part examination of affordable 3D resin printers on his blog. If you're at all interested in pursuing do-it-yourself (DIY) 3D printing, make sure you check out James' blog series. James says:

"Now that I'm getting back into the hobby, one of the big things I wanted to dive into was 3D printing. It seems like a great technology that has finally evolved to the point that people can start using it en masse. 3D printing lends itself well to small parts that are difficult to make at the workbench and one-off models that model train manufacturers can't make a profit on."

"I've decided to do a series of posts that explain what I've come to learn and document my journey into what is basically a hobby all on its own."

To read the complete blog series, use the button below.

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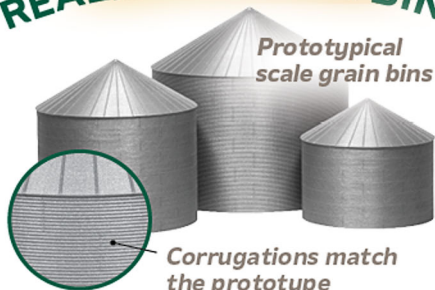


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4. Milt Panton recently ventured into electric locomotives for the Hanna Mining on his layout. Read all about it in his *MRH* blog.

Hanna Mining and its electrics

MRH forum member **mspanton** (Milt Panton) chronicles his layout projects on his long running *MRH* Missabe Road blog.

“This is my first venture into electric locomotives, albeit an un-powered one. Electric haulage was common across the Mesabi Range, so it was inevitable that at least one should appear.

This had been the site of the Shenango mine, which once rostered a Shay, but I could find very little on the operations other than a track plan, and the Shay was long gone by the 1950s.

Hanna mining rostered some small electrics, which my friend Todd Monroe replicated in 3D. Bill Brillinger created decals from our artwork to finish off the electric. I am now learning how to string the overhead wire.”

Visit Milt’s blog and dialog with him about his layout!

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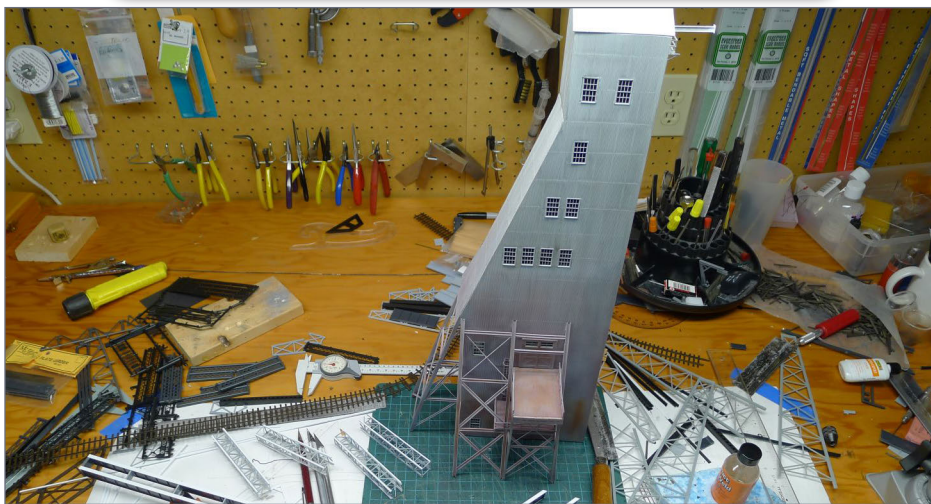
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Latest *MRH* “What’s on your workbench” thread

Every month, a new What’s on your workbench photo thread appears. It’s frequently loaded with inspiring projects ...

View the full thread on the *MRH* website



5, 6. *MRH* forum members **gogebic** (Hans Schlegel) and **ChrisFrissell** posted these ambitious projects on the latest “What’s on your workbench” thread. Check it out for lots more great projects!



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WHAT'S NEAT

column



Model Railroad Hobbyist | October 2020

KEN PATTERSON'S COLUMN THIS MONTH ...



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- Building rocky scenery from start to finish with Tim Schreiner ...
 - Terrain and rockwork
 - Dirt and ground cover
 - Ballasting
 - Grass, bushes, and trees



WHAT'S NEAT!
MODEL RAILROADING
Scenery from
Start to Finish



October 2020 show

PHOTOS AND VIDEO OF SUPERB MODELS

THIS MONTH TIM SCHREINER (timsscenerycreations.com) came by Ken Patterson's studio and shared his techniques for building rocky scenery from start to finish.



1. Tim and Ken showing off the finished diorama.

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2. The base scenery for the demonstration consists of stacked foam covered with plaster gauze. Atlas track is laid on cork roadbed at the base of the cliff.

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3. Tim uses Bragdon Enterprises (www.bragdonent.com) rock molds. Here he is filling one with a thick blend of Ultracal 30 Gypsum plaster, after which he lets it set for about 10 minutes. Ultracal is made by USG (US Gypsum) and is available online in various amounts, including 50lb bags, for between \$25 and \$50 on eBay.

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4. After the Ultracal sets up a bit, Tim wets the plaster cloth base with a water sprayer and presses the rock casting into the side of the hill, holding it there for another 10 minutes.

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5. Tim uses a variety of molds, placing them in several locations on the hill. Here he peels off the rubber mold, revealing the new rocky cliff underneath.



6. Tim uses colors from Liquitex's “Basics” line of acrylic paints. They include Mars Black, Raw Umber, Burnt Umber, Burnt Sienna, Red Oxide, and Raw Sienna.



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7. Tim thins the paint with water to create a thin wash. He uses a 2 inch wide brush to apply black, burnt umber, red oxide, and burnt sienna in layers across the rock faces.



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8. For the base ground color, Tim uses a latex earth tone color, painting it around the rocks and along the track.



9. Tim adds fine dirt to the entire scene along with a mix of small rocks to represent talus at the base of the slopes. Tim's dirt is some that he found in Arizona and sifted himself.



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10. Tim glues the dirt and rocks into place using a small squeeze bottle filled with Elmer's White Glue mixed 1 to 3 with water and a little detergent. He lets it dry for 30 minutes.

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11. Tim then sprays the dirt areas with a spray adhesive and adds fine and coarse ground foam to the entire scene.



12. Tim sprays AquaNet Extra Firm Hold hair spray over the entire diorama to glue down the ground foam.



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13. Tim adds clusters of lichen to the scene, using Woodland Scenics Scenic Glue to secure them.



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14. Tim adds a mix of small pine trees to the diorama. To install them he uses a sharp scratch awl to poke a hole in the plaster and foam scenery and then presses the trunks into the holes. Tim uses trees from multiple manufacturers to prevent the scene from looking too uniform.

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15. After painting the track with spray paint from Krylon's Camouflage line, Tim uses a ballast spreader to apply Arizona Rock & Mineral Union Pacific Gray ballast to the right of way.

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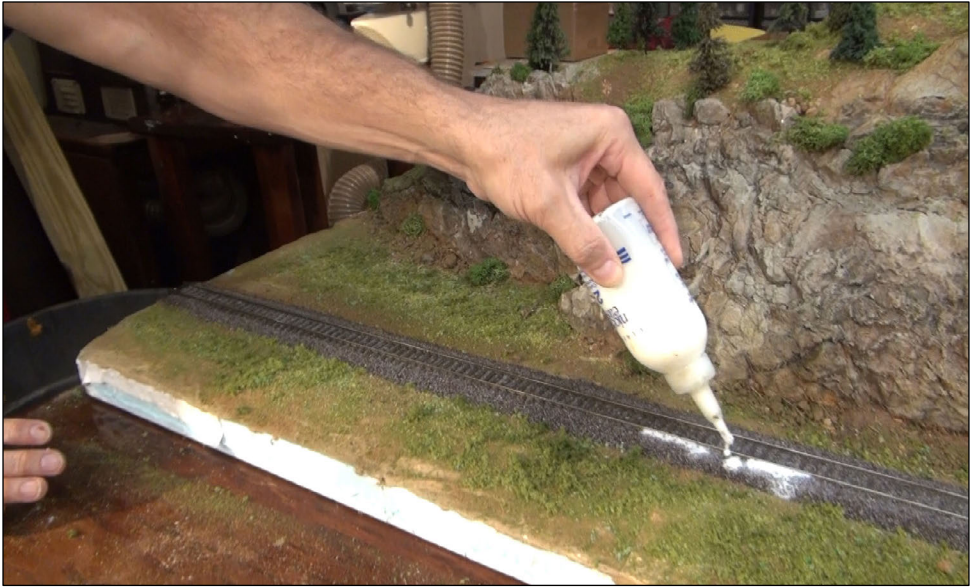


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16. After grooming the ballast and soaking it with a water sprayer, Tim again uses his Elmer's white glue, water, and detergent mixture to glue it in place. The bottle was originally used for applying hair products at a hair salon. The track is cleaned with a Bright Boy. With that, the diorama is complete. See the entire process in this month's What's Neat video.



Also see the "What's neat this week" weekly video podcast!



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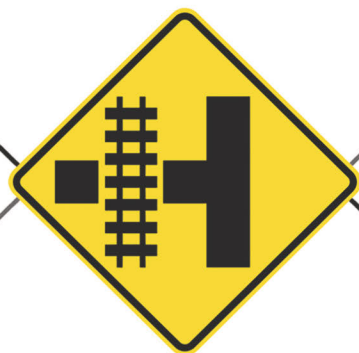


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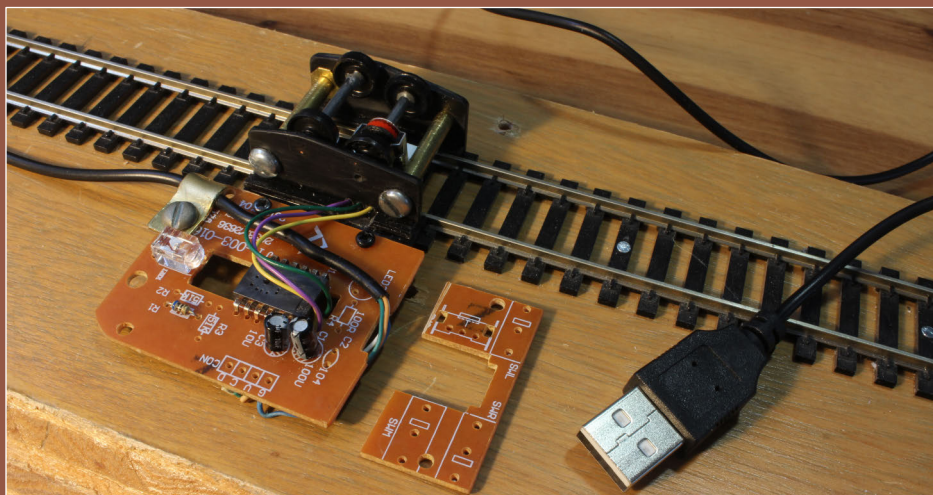


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Model railroad *running stand speedometer*



Model Railroad Hobbyist | October 2020



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GARY WINTERGERST EXPLORES PUTTING
A SPEEDOMETER CIRCUIT ON A LOCO
RUNNING STAND ...

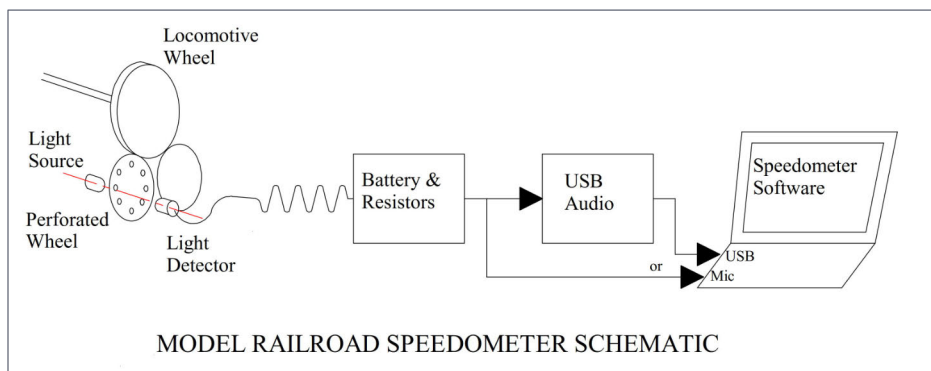
BACK WHEN I GOT STARTED IN DCC, I wanted to build a running stand speedometer to assist in speed-matching locomotives. I thought I could use old plastic wheelsets with holes drilled in the web of one of the wheels and have a light shine through the holes for driving a pulse counter.

I could not come up with a stand-alone timer/pulse counter, so I dropped the project. Later on, the TrainSpeed product came along, and even more recently the Bachrus speedometer – both of which I own. A running stand such as the Bachrus product has the advantage, unlike the TrainSpeed, of not requiring a lengthy track.

Unfortunately, the owner of Bachrus has retired and closed the business, so I began to rethink my old idea. I reasoned that a computer's microphone input might be adapted as a pulse counter, so the idea evolved into what I've illustrated in [1].

Many ways exist for converting the analog pulse to a digital value, but most involve costly data acquisition devices beyond what this project merits. Most laptops used to include a microphone input, but they've now largely been replaced with USB ports. That said, inexpensive USB audio adapters with microphone inputs can be had for between \$5 and \$20.

In this article I describe how a reasonably competent modeler can build a running stand speedometer at minimal cost. Since I did the development of my working model during the early COVID-19 lockdown, I built mine almost entirely from parts on hand. Using some commercial parts can simplify construction.



1. Model railroad speedometer concept.





G. Wintergerst

WHY THIS ARTICLE?

I offer this article to my fellow model railroaders as a way to get a speed measuring device that no longer can be had on the commercial market. My hope is that those with a more technical bent might find what I have done useful – and that some of you may experiment with what I have done and submit suggested improvements to both the hardware and software.

I should note that all my tests so far have been on HO scale diesels. I guess tests for steam and other scales are, as they say, left as an exercise for the reader.

BASIC SPEEDOMETER HARDWARE

Photo [2] shows how the battery pack and the sensor unit go together.

The hardware consists of a few mechanical parts and some very basic electronics. Let's start with the schematic [3].

For the sensor, I use a photo resistor sensitive to visible light, but other types could be substituted. I use a red T1 LED for the light source. A plus for visible light – you can tell when it's on!

I chose a 3-volt source using a couple of AA cells. I chose a 150-ohm resistor to provide around 10-15ma of current for the LED – high enough for reasonable brightness but low enough for long LED life. I tried a variety of resistors on the output and went with 82K since I had one handy.

I didn't have a battery holder on hand so I built one from styrene, using brass strips for the contacts. I added a small compartment for the resistors in the battery holder. I didn't have a 3.5mm phone jack around, so I scrounged one out of a

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defunct cell phone. I made the contact pins penetrate the battery holder case, and glued the jack on the outside. A small on-off switch would be nice, but lacking one, I just remove a battery or unplug one end of the interconnect cable.

Since the computer I'm using has a mic-in, I avoided the need for a USB audio interface. But if you do go with the USB port option, you can use the USB port as a source of 5V power and avoid the battery box. Because you will be supplying 5V of power instead of 3V, you will want to increase for your LED to 330 Ω to compensate [4].

You can use a USB extension cable between the connection box

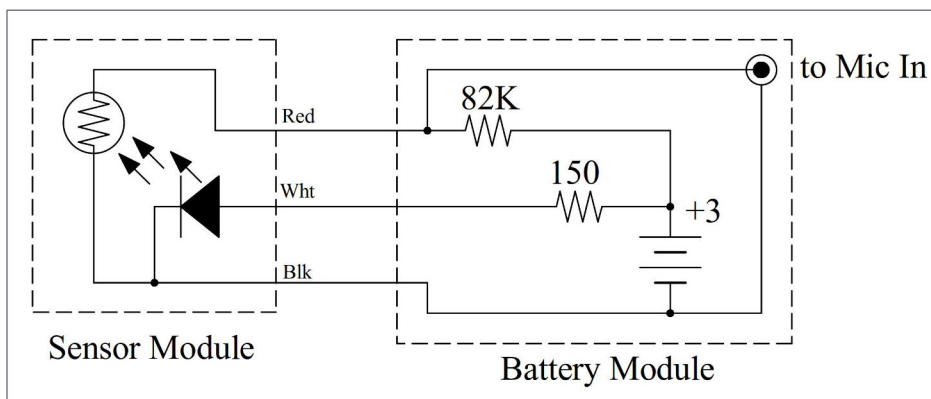
and the computer. If you're feeling adventurous, you can enclose the USB audio module in the connection box. I can't vouch for this approach since I haven't tried it, but I offer it as a suggestion.

2. Battery box and sensor unit.

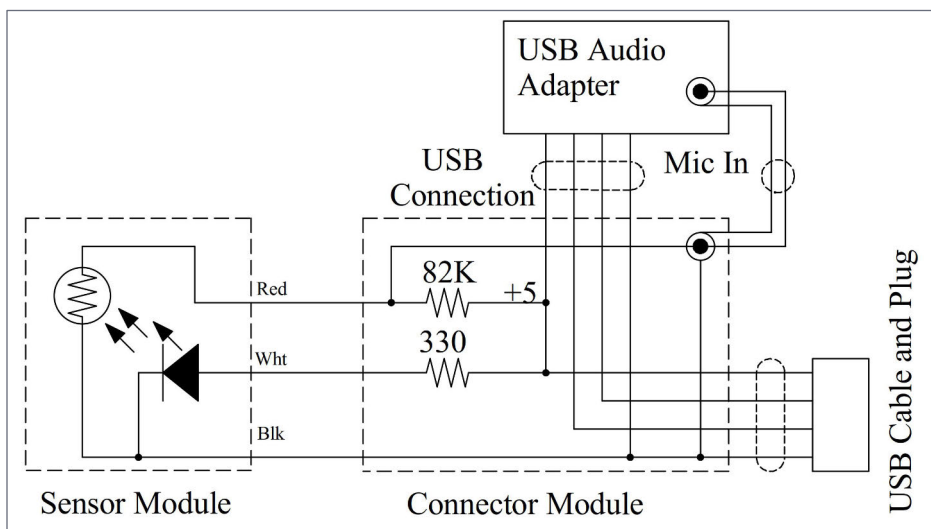


BUILDING THE SENSOR UNIT

Other than the electronic components just described, you don't need a lot of parts to build a sensor unit [5].



3. Electronics schematic.



4. Alternative USB audio schematic.





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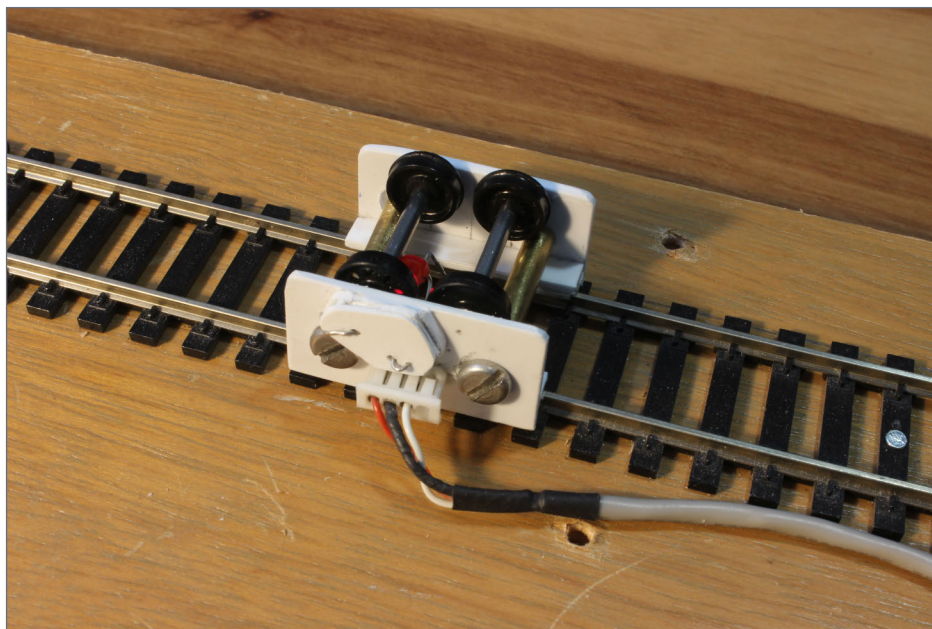
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- Previously mentioned plastic wheelsets (actually Delrin)
- Side pieces built up from 0.060" sheet styrene
- 5/32" brass tubing
- 6-32 screws

Drawing [7] provides dimensions and assembly details, with the most important factor being free-rolling wheelsets. To ensure that, the wheels on the two axles cannot touch each other or the brass tubing frame pieces. I turned-down the flanges and reversed the wheels on the axle (flanges on the outside instead of inside) so they interlock better with the locomotive wheels.

Turning the flanges down gives more clearance within the assembly and with locomotive truck frames. Just *do not* nick the tire when turning-down the flange.



5. Sensor unit.



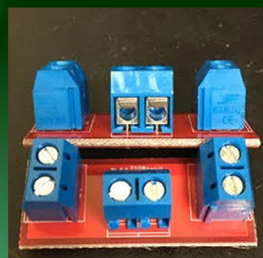
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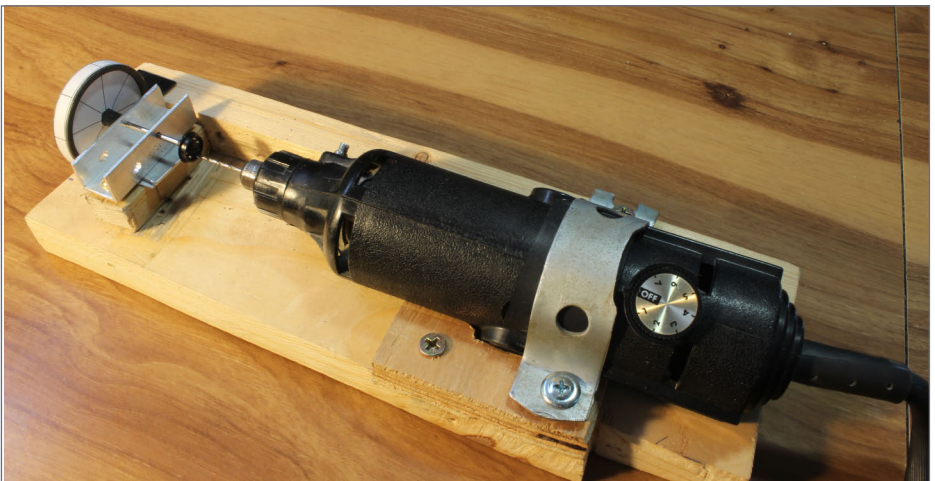
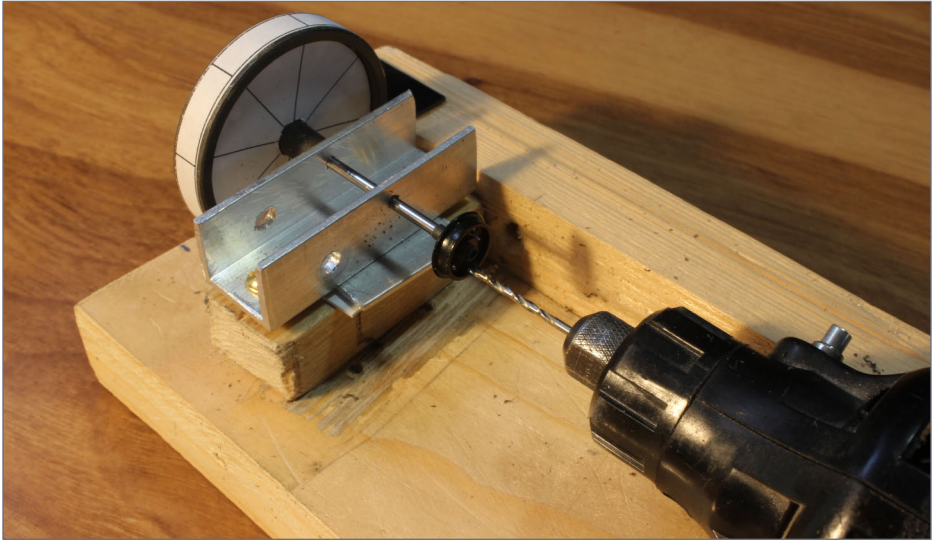
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I experimented with six, eight, and 10 holes in the wheel, and ended up with eight. Six provided too little resolution and 10 seemed to over-attenuate the signal.

I drilled the 0.050" holes by mounting the wheel on an axle with a larger indexing wheel marked off in eighths of a



6a, 6b. Wheel-drilling jig.



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revolution [6a]. I mounted that assembly in a jig that held a rotary tool with the 0.050" drill bit. I then slid the wheel into the spinning drill bit, withdrew it, rotated 1/8 revolution, and repeated the process until I had completed all eight holes.

In both the drilling and the flange turning, carefully remove any loose flash that could interfere with axle rotation or pulse sensing. I fashioned a plumber's tape clamp to hold the motor tool in the frame [6b]. Some may recognize the frame as a piece of discarded L-girder.

Drawing [7] shows a 0.020" hole in the side frames where the axles ride. Take special care that the side frames match up on these. After drilling, I countersunk the insides very slightly to provide a small cone for the axle to ride in.

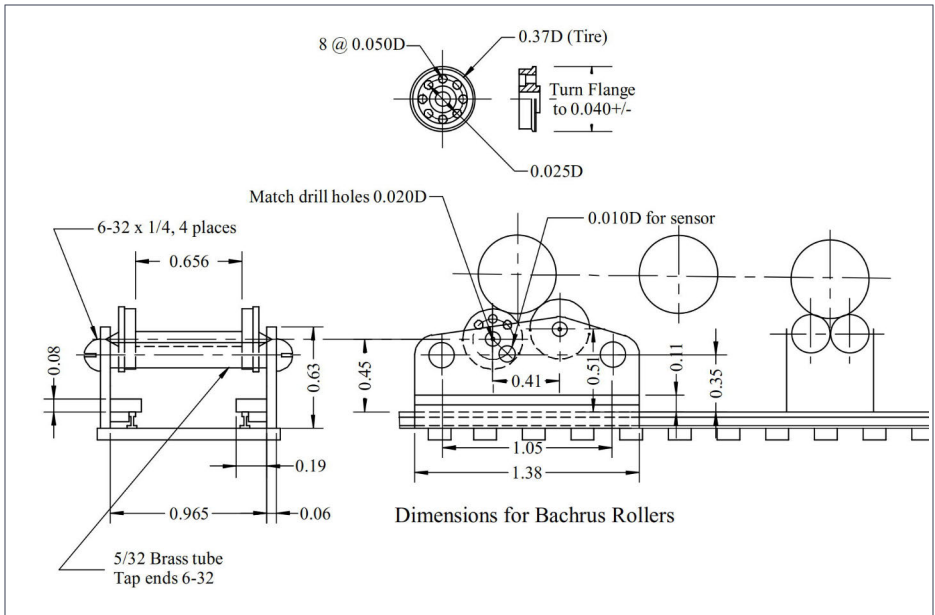
Watch the spacing between the side frames carefully because you want a few thousandths end-play for the axles to roll freely. The drawing shows a side frame spacing the length of the brass tubes. In practice, I found it best to cut the tubes a bit long and then file them and check the fit until achieving an optimal frame spacing with just the right amount of end-play.

I built this all without machine tools, so I had to allow for the tube ends being slightly out of square. I used spacers (0.010" or so) on the tubes to help ensure fit. Most of the dimensions are not critical as long as the frame ends match up closely and the axles roll freely.

You might notice that the drawing states, "Dimensions for Bachrus Rollers." The plastic rollers for the sensing module of course do not conduct power – so unless you're into dead rail, you need conducting rollers on other roller axles. You can also use Bachmann Rollers, but they're about 0.1" lower, so adjust dimensions accordingly.

Now a bit of digression: you may note my drawing doesn't exactly match the photographs. In particular, the drawing





7. Sensor unit mechanical details.

shows the axle of the idler (non-sensing) wheelset elevated about 1/16" relative to the sensing wheelset. I did this to shift some of the locomotive axle weight toward the sensing axle, improving the contact between the locomotive and the sensor. The height difference must be fairly small to prevent the locomotive driving off the roller assembly.

This weight shift became particularly important as I investigated an alternative sensor mechanism based on a mouse wheel encoder, which deserves a separate discussion.

ALTERNATIVE: MOUSE WHEEL SPEEDOMETER SENSOR

As I thought about how to connect the sensor to a computer, it occurred to me that a computer mouse comes with its own USB drivers. I also know the Java computer language includes a

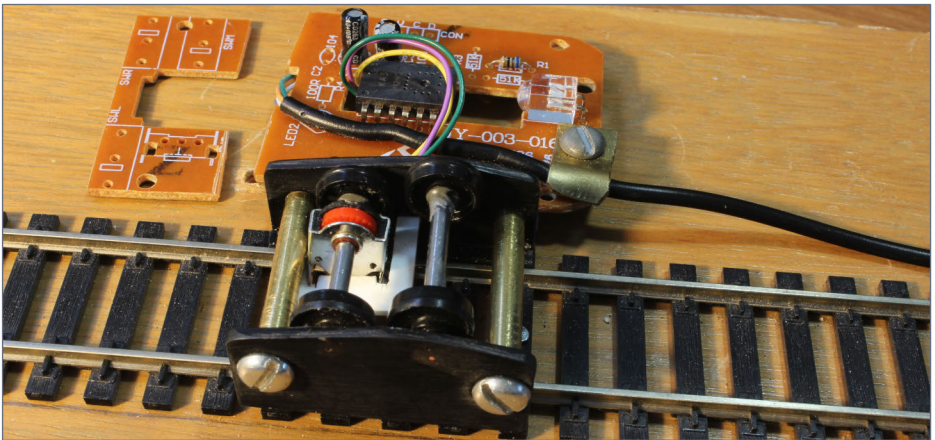
mouse wheel listener to simplify the Java programming when using a mouse with a computer program.

I obtained a Verbatim Wired Optical Notebook Mouse (\$5.99 on the internet) and took the sensor module apart. I removed the button microswitches, detached the wheel encoder from the board, and cut off a portion of the board where those components had been.

The mouse wheel sensor mechanics work similarly to those of the light pulse sensor, except that instead of light pulses through a wheel, the mouse wheel encoder generates pulses with the model train wheel I mounted on the mouse sensor “axle.”

In the underside view [9], you can see where the wires attach to the mouse sensor. Also note the white styrene collar I added around the sensor housing to keep it from rotating. The mouse wheel encoder has some rolling resistance within it, but mounting the wheels on the mouse encoder shaft helped reduce rolling resistance.

The encoder has a metal spring to provide tactile feedback of the rolling with ticks, but that spring added further resistance,



8. Mouse wheel sensor circuit board and sensor from the top (red wheel).

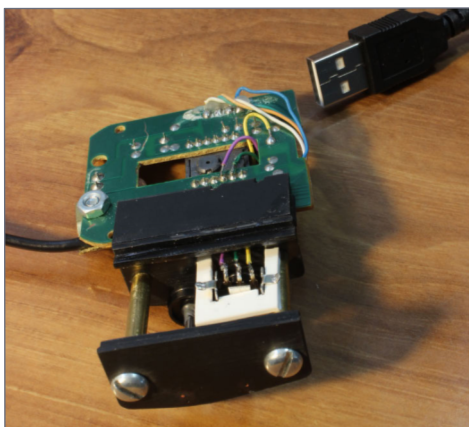


so I opened up the encoder, removed the spring, and reassembled it.

I found the most critical—and most tedious—part of constructing this sensing mechanism was mounting the sensor wheel and its housing on the train wheel axle. The center hole was hexagonal and smaller than the axle diameter. Filing the encoder wheel hole large enough to fit tightly on the axle without damaging the raised part of the encoder wheel hub required some care. I've only been on the receiving end of root canals, but I suspect that opening out the encoder wheel center hole would be good practice if you ever want to learn to perform one!

SOFTWARE

I developed a fairly minimalist Java application to use with the speedometer. Anyone familiar with the Bachrus speedometer available in JMRI may notice some similarity in purpose, appearance and operation to my simple application.



9. Mouse wheel sensor, bottom view.

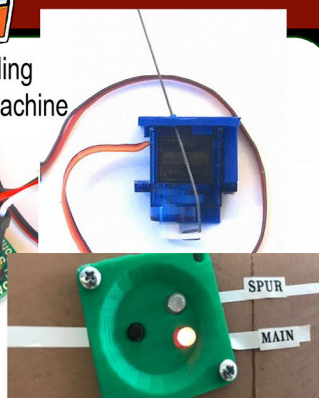
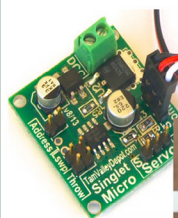
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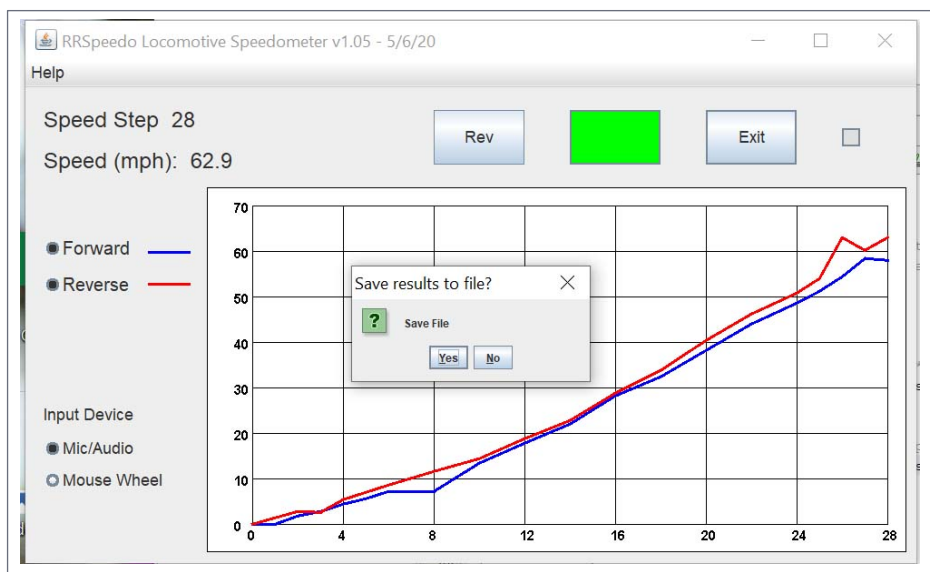
RUNNING STAND SPEEDOMETER | 12

With my simple program, however, the user has to manually set the throttle speed for each step rather than letting the program handle the whole operation. It means the user has to pay attention to what's happening rather than stepping out for coffee.

Ideally, either of these speedometer interfaces could eventually be incorporated into JMRI and make my application obsolete. That could happen someday but is probably above my pay grade, as they say. The program screen image [10] shows a forward/reverse cycle.

After I had the program working with the microphone input sensor, I modified it to accept either the microphone sensor or a mouse wheel sensor. My modified version provides for a choice of input sensor.

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10. Speedometer program screen image.



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TEST RESULTS AND CLOSING REMARKS

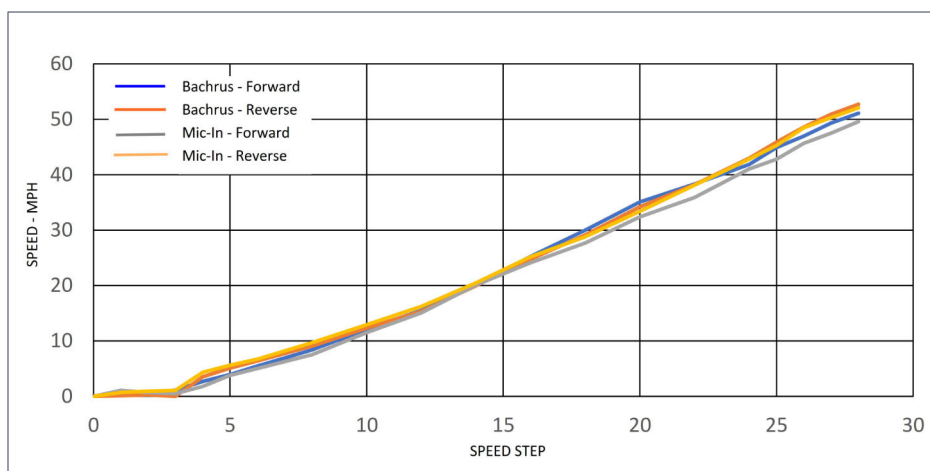
I've run several tests of the Java program so far and have obtained these results.

Performance for a fairly well-behaved locomotive can be seen in the following two charts [11, 12]. As the test locomotive, I used a Proto 2000 SD45 with an NCE D13SRJ decoder. The first chart [11] compares results from Bachrus and the Mic-In speedometer for forward and reverse directions.

The second chart [12] adds a target speed profile and results from the TrainSpeed product, from the now defunct Bachrus speedstand speedometer, and from my mouse wheel speedometer. Since I programmed the locomotive with the Bachrus product, correlation with it comes as no surprise.

I did not expect the results for TrainSpeed to vary so much, with speeds around 40 percent higher than those measured with any of the roller stand devices!

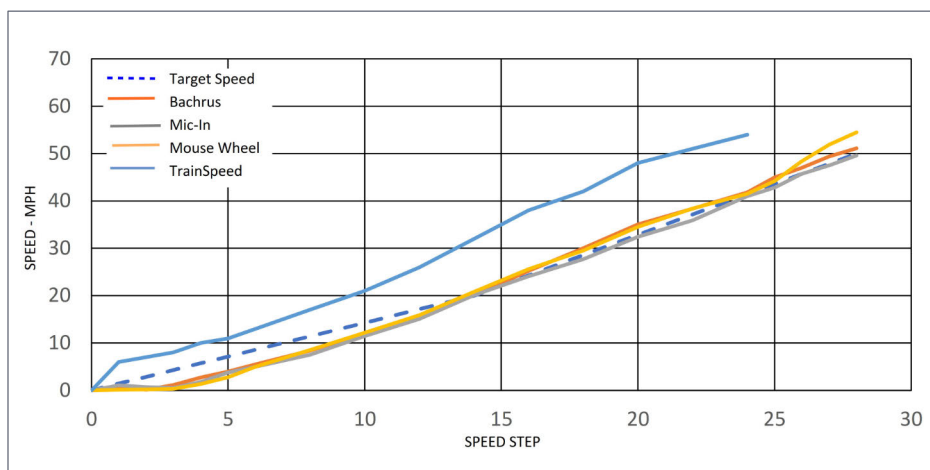
What I thought should have been a straightforward calibration of the mouse wheel sensor turned out not to be so simple.



11. Comparison of Bachrus and Mic-In speedometer results.

I finally just adjusted the mouse wheel's feet-per-tick so that it agreed with the data from the Bachrus and microphone sensors.

So if you have a technical bent and you would like to try building your own static test stand speedometer, I've given you the steps for doing so. If you have improvements, please don't hesitate to post them on the comment thread to this article. ☒



12. Comparison of speed measuring devices when running the loco in the forward direction.

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GENERAL OPERATION OF JAVA SPEEDOMETER PROGRAM

To get my Java program, [visit the bonus downloads for this issue](#).

My Java program works similarly to the JMRI Bachrus speedometer except that the user must manually set the locomotive speed based on program prompts.

First, the user must select an input device, either Mic/Audio or Mouse Wheel.

User can select forward or reverse profiling, or both (default). For example, reverse would need to be deselected if you only want forward. If you deselect both, you'll be admonished!

OPERATING STEPS

Select the "Start" button once to move to "Fwd" or "Rev."

The user should then start the locomotive at step 1 in the desired direction. Select "Start" (now showing "Fwd" or "Rev") to begin the sampling cycle. After 3 seconds, the green light will turn red to show that the speed is being timed.

After each sampling time, the step number will increment by one or two (as explained below) and there will be a 3 second delay for the user to set the throttle to that speed step. Then the light turns red again and the cycle repeats until all 20 steps have been processed.

Why do I only have 20 steps and not all 28? Since my program requires you to manually set the throttle to the speed step before sampling, I skip some of the intermediate speed steps because I don't need all of them to adequately profile locomotive speed.

So my program samples these speed steps: 0 (not really a step), 1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24,

Sidebar continued on the next page ...

GENERAL OPERATION OF THE **JAVA** SPEEDOMETER PROGRAM, *CONTINUED* ...

25, 26, 27, 28. I skip speed steps 7, 9, 11, 13, 15, 17, 21, and 23.

The user may also notice some timing steps take longer than others. My program times lower speeds for 4 seconds but reduces the duration to 2 seconds at higher speeds.

After “Fwd” the “Start” button changes to “Rev” if reverse has been also been selected.

The user will need to change throttle direction and begin step one, then select “Rev” button to begin the reverse cycle. After the one or two requested cycles have been completed, a file save dialog box comes up to offer the user the chance to save the results.

If saved, the data gets written to a space separated text file, named as the user chooses. Note that if you desire a .txt suffix, the user must supply it.

Yes, this is a fairly minimalist program and lacks some “would be nice” bells and whistles. For example, it would be nice to be able to go back a step because the wrong throttle speed got selected. It would also be nice for the program to take over the throttle and handle the steps itself.

Maybe some of you can help with adding these enhancements.

I would like to thank Michael Pulling of the San Diego Model Railroad Club for his review and valuable comments on this article. ■



MATERIALS LIST

This materials list is rather general since I built my test models largely from materials on hand.

I list parts for both the Mic-In model and the mouse wheel model but you don't need both. I omit the parts for the wheel drilling jig since various methods could be adopted to perform that task.

One should also have available a suitable test track and either Bachrus or Bachmann idler rollers. If using Bachmann rollers, adjust sensor dimensions as described in text. ■

Part	Source	Comments
0.060 styrene	Hobby supply	
Plastic wheelsets	Junk box	
T1 Red LED	Electronics supplier	
Photo resistor/photocell	Electronics supplier	Believed to be similar to CdS 80-240K
Sacrificial mouse*	Office/consumer electronics	For wheel encoder & USB I/F (e.g. Verbatim 99743)
2 x AA battery box	Electronics supplier	
3.5 mm mono jack	Electronics supplier	
Interconnect cable	Computer audio cable	Other 3-conductor interconnect usable
USB Audio	Office/Electronics supplier	If mic input not available
150-ohm resistor	Electronics supplier	For use with 3 V power supply
82K-ohm resistor	Electronics supplier	
3.5 mm mono cable	Office/consumer electronics	Battery box to mic-in
5/32" brass tubing	Hobby supply	
6-32 x 1/4" screws (4)	Hardware	Pan-head preferred if available

*Only needed if you build the mouse wheel version.

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GARY WINTERGERST



Gary Wintergerst models primarily 1970s and 80s Southern Pacific with a smattering of Burlington Northern plus the Atchison, Topeka, and Santa Fe. Gary began modeling in the mid-1970s and has been a member of Southern California's Roundhouse Gang Model Railroad club since the late 70s.

Gary's modeling interests, besides speed-matching locomotives, include scratchbuilding and detailing equipment, especially locomotives. Two of his scratchbuilding projects were a 16-axle, depressed center flatcar (with load) and a GE U50, a year or two before the Athearn version was released.

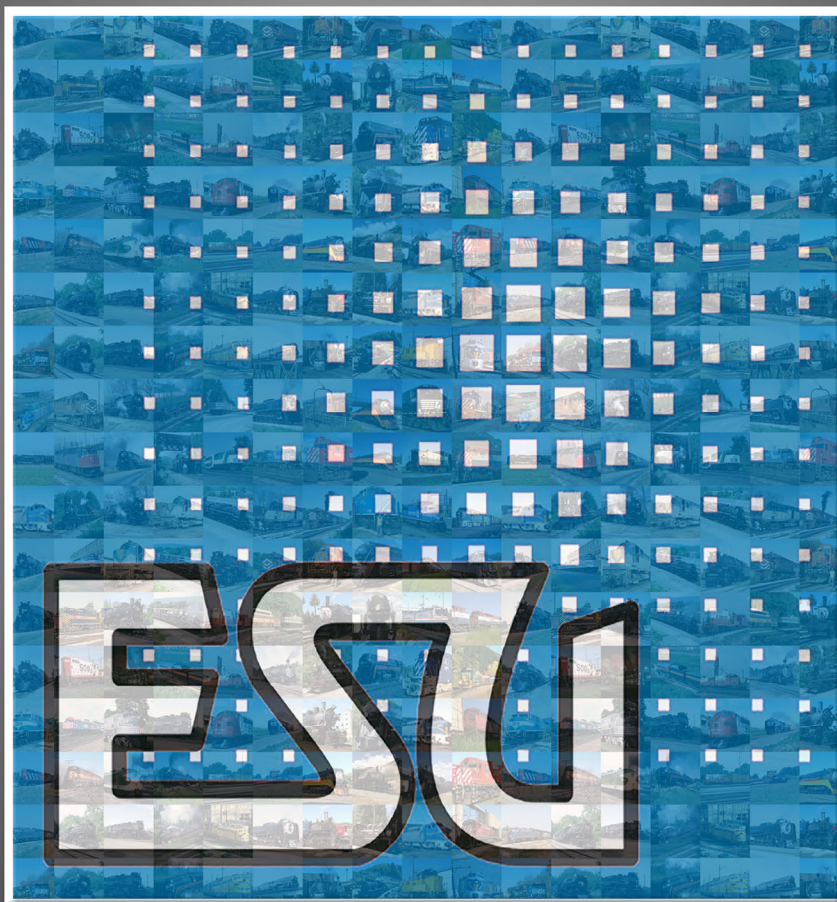
Gary is a native Californian and a retired civil engineer who spent most of his engineering career on transportation-related projects. While trained in civil engineering, he's been known to dabble in things mechanical and electrical.

Gary holds a B.S. in Civil Engineering from California State Polytechnic University, Pomona and an M.S. in Engineering from University of California, Los Angeles. Gary and his wife Rachel have been married 46 years and have a daughter, son, and two grandsons. ■



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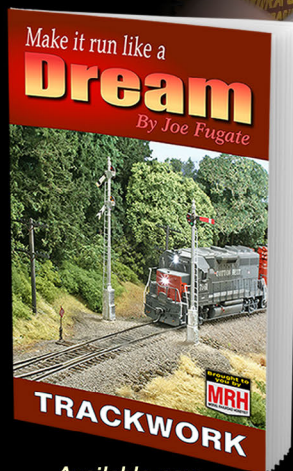


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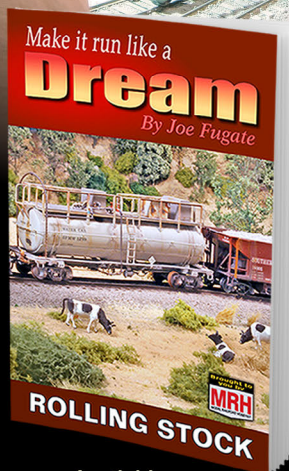
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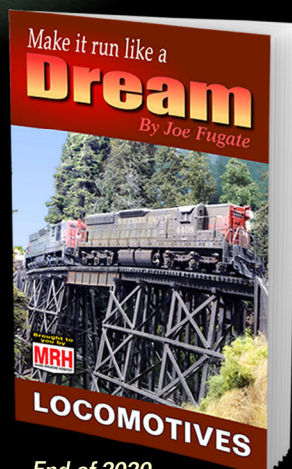
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*Our new video production
strategy and how you can help ...*

1. During this era of lockdowns and uncertainty, it's difficult to visit layouts and shoot layout stories. For that reason, we're resurrecting a TrainMasters TV segment we called "MyLayout." We work with you to have you shoot your own layout and we pay you when your segment appears on TMTV. We cover the details for this and a lot more here as we describe our new TMTV content game plan.



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WELL BEFORE THE CRAZINESS OF 2020 HIT, we had been planning to give *TrainMasters TV* content a fresh new look for 2021 and to launch a number of new shows as part of that. Thanks to the lockdowns and all the uncertainty, we've been rethinking our strategy and adding some interesting new wrinkles.

The planned new look changes actually work to our advantage because they replace the "live" segments with "scripted" segments that don't need both a host and a guest. The scripted segments can be shot without anyone needing to go on the road. For more on this change, see the sidebar, *New TrainMasters TV segments*.

But with the lockdowns during these times, we're rethinking how we produce our video content. This is actually good news – the technology needed to shoot network TV quality segments *without* going on the road has arrived.

If there's one approach to what we do that defines *MRH Media* more than anything else, it's that we're all about exploring leading edge media tech to produce and deliver our model railroad-ing content to our fellow hobbyists.

We're gearing up to adopt this new technology with gusto, and you can help. Read on for the details!

NEW: LAYOUT STORIES WITHOUT TRAVELING

Before 2020, we used to travel 2-3 times per year to an area and shoot 4-5 layout stories at a time for both *MRH* and *TrainMasters TV* [2]. But once the lockdowns hit, we had to curtail traveling to do these stories.



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J. Fugate

WHAT IS TRAINMASTERS TV?

MRH launched *TrainMasters TV* (TMTV) back in November of 2013. We call TMTV “The web TV channel for people who love model trains.”

You can think of TMTV as Hulu or Netflix for model trains – it’s a paid web streaming video channel loaded with hundreds of network TV quality videos about model railroading. We post three to four *new* videos (running at least 90 minutes total) on model railroading topics each month. ■



2. Every few months before the lockdowns, we would go on the road and shoot layout stories for *MRH* and *TrainMasters TV*. We’re running out of layout story backlog now and we haven’t been able to go on the road and shoot more layout stories in 2020. Until things return to some level of normal, we’re moving to “plan B” for getting more layout stories by having *you shoot your layout* for us. See the text for details.



3. We used to have a segment called “MyLayout” where you could send in footage of your layout to us and we would add commentary to it, but it never caught on. Now that high resolution video cameras come with smartphones and tablets, most people have a great quality video camera at their fingertips. We think it’s time to resurrect MyLayout. See the text for details on how you can contribute and get paid for your layout video.

We’re not sure how soon we will get back to the normal ability to travel again, yet we don’t want to forgo having layout stories to present.

When we launched TrainMasters TV in November of 2013, we included a segment we called MyLayout [3] that took home-made video footage and added a nice commentary wrapper to it to provide some fun spit-and-polish to the presentation.

However, MyLayout never really caught on so we dropped it from the TMTV lineup. Well, times have certainly changed and we think we need to resurrect MyLayout once again. Most folks now have a good quality video camera they carry in their pocket.



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J. Fugate

SUBMIT YOUR LAYOUT TO TMTV

We're putting out a new call for layout tour videos to everyone who has a layout. If you send us video and we use it, we'll pay you \$200. Every five months we will look at the first month viewership for your video and the leader will get a \$500 bonus!

To learn exactly how to do a layout tour video for us, see the details in the text below. ■

Doing a video for MyLayout

Okay, let's say you want to do a video to submit to MyLayout. Here's what you need to do.

Video camera: If you have a fairly new smartphone or tablet, then you have a high enough quality video camera for a MyLayout submission to TMTV.

Go the extra mile: Using a dedicated video camera like a GoPro or a consumer digital video camera is a plus, but not required.

Caveat 1 - Use good lighting: Pay attention to your lighting if you want the best video. Using more light helps make our small models look sharper and have less blur. For you techies, more light increases the video camera's depth of field, making layout closeups look better.

Go the extra mile: If you want to get an adjustable LED light [4] that's not too expensive, see the shopping list link at the end of this article.



4. You can get this 3200-5600K adjustable LED light on Amazon for just \$85.

One other thing to watch out for with lighting, and that's consistency. Check your layout for dark spots or extra bright hot spots [5]. Adding extra lighting to the darker areas can help balance things out more.

You may also be able to manually adjust your camera settings to darken the image and help eliminate brightly blown out lighting hot spots.

Caveat 2 - Watch white balance: You can get decent video color with most digital video cameras using just the auto white balance setting.

However, do pay attention to how your layout is lit. If you have a mix of florescents and LED bulbs, for example, you could have a mix of light colors that will make your video colors look strange [5].

While it may look fine to your eye (our brain compensates for the color variations), the camera accentuates lighting color differences. As much as you can, try to match the light colors.

If you get the adjustable LED light shown previously, make sure to adjust the light color to be as close to your other layout lighting as possible. You can also compensate somewhat for mixed lighting on your layout by using the LED light set to the opposite color temperature. Shoot some test footage to be sure.

For a good introduction to how white balancing works, see:

boxcast.com/blog/video-white-balance-101

Go the extra mile: If you want to explore manually adjusting your video camera's white balance, that can help solve certain lighting challenges and make your video look even better.

Caveat 3 - Video file size: Video files can get big in a hurry. The most important thing you can do to manage file size is to shoot short segments of a minute or two each.

Avoid just turning on the video camera and letting it run for 10, 20, or 30 minutes at a time. Notice in [7] that a 20 minute full





5. Check your layout lighting and watch out for dark spots and overly bright blown out lighting hot spots like you see here. In those cases, extra lighting in the darker areas can help, as can manually adjusting your camera to darken the image somewhat for the overly bright blown out areas.



6. Watch out for mixed lighting like you see here. One part of the layout looks reddish (warm bulbs) while the other part looks greenish (cool bulbs). See the text for how to deal with this.

Video format	Resolution	Size / min	20 min video
Ultra HD or 4K	3840 x 2160	320 MB	6.4 GB
Full HD	1920 x 1080	149MB	3.0 GB
HD	1280 x 720	105 MB	2.1 GB

7. Video files can get big in a hurry, especially if you're shooting in Full HD or 4K. Most email programs only will do a max of 20MB, so you will have to send your video files to us using a cloud file share service or load the videos onto a thumb drive and mail them to us.

HD video is 3 gigabytes! You won't be able to email video files to us, you will have to use a web file sharing service such as Drop-box, Google Drive and so on.

The other thing you can do is upload your video to YouTube or Vimeo and set it to private, then send us a link to it.

Video resolution: We want you to shoot your video in at least HD (1280 x 720), but we prefer Full HD or even 4K if your camera is capable of shooting that resolution.

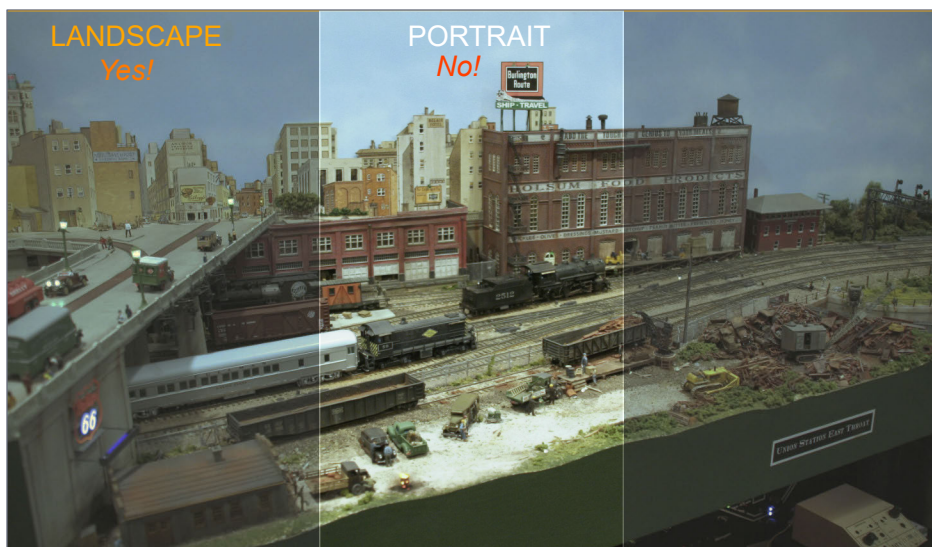
Make very sure you shoot short segments of a minute or two each, that will make sending the video to us a lot simpler because the files will be smaller.

When using your phone or tablet to shoot video, please always shoot it in landscape orientation [8], not portrait!

Audio: When you're talking on the video, please remove other noises such as air conditioners, fans, the furnace and background talking. Get as clean an audio signal as you can. The most likely reason we will reject a video submission will be for poor audio.

Go the extra mile: If your video camera has an external audio jack and you want to get a lavalier mic, that will up the quality of your audio considerably. This one extra step will move your submission to the top of the list and likely put you in the possible \$500 bonus running with our viewers.





8. When shooting video with your phone or tablet, please always shoot *landscape*, not Portrait. Please turn the device so the video framing is wider than it is tall.

Moving the camera around: As a general rule don't move your camera around while you're shooting video. Nothing makes your video look amateurish faster than moving the camera all around while you're shooting video. Most consumer cameras have video stabilization, make sure it's turned on.

Go the extra mile: Get a tripod mount for your phone or tablet and you will improve your video quality. You can find a 7.2' tall camera or tablet tripod mount on Amazon for just \$30. If you really want to go the extra mile, you can also get a blue-tooth remote that lets you operate your phone camera from a distance.



9. You can get this 7.2' phone tripod mount on Amazon for just \$30.

What to put into your video

Now that we've covered the technical side pretty thoroughly, what do we want you to put into your video? Remember to keep the each video clip short, no more than 1-2 minutes each.

Tell us a bit about you: Point the camera at yourself and start off by telling us a bit about you. How did you get into the hobby? What has your hobby journey entailed? What's your current passion in the hobby? What kind of hobby projects get your hobby juices flowing?

Tell us about your layout: Point your camera at the layout at the room entrance or do a very slow (and we mean slow) pan around the layout room to show us some of the layout while you talk.

Tell us things like how large is the room, what scale is your layout, and why did you decide to model this subject, prototype, and/or era?

Give us a little layout tour by showing us some of your signature scenes. Describe the backstory on the scene and why you felt it important to model it as you're videoing it.

Remember to keep the camera steady, don't move it all around while you talk! If you want to show us a closeup, then make a mental note of that and once you're done talking, shoot some "b-roll" footage as a closeup that keeps the camera steady!

Again keep the video clips short, no more than 1-2 minutes each. Be careful, the time can go fast! If you have a lot to say, then stop, move to a new shooting angle, and talk some more. Ten 1-2 minute clips are far better than one big 10-20 minute clip.

Finally, if you have something you're particularly proud of such as a nice segment of painted backdrop or a nice modeled stream, then tell us about it!

Sending your video to us

Before you get too far along on your video project, contact us and tell us what you want to do. We will have you shoot a few samples



10. Doing in-studio segments with three cameras isn't nearly as easy to do with the lockdowns. The TMTV main studio being in Canada has made it virtually impossible for guests from the USA



to come shoot segments. Our new game plan embraces the new normal for now and moves to doing high-quality streaming clinics. We cover the technical details in this article, and we're also looking for guests who want to be on this new "remote" TMTV.

and send those to us so we can let you know if your video is going to qualify to be on MyLayout. We're just trying to make sure you don't do a lot of video shooting only to find out something's not quite right and you need to scrap your efforts and redo it.

If you kept your video clips short as we recommend, then submitting your video clips to us will involve uploading a bunch of files that are 200-800 MB each. Once you get files of 1GB or larger, the upload times can get rather long. A lot of short and relatively quick file uploads beats a few really long file uploads!

As mentioned, your upload options include Dropbox (2 GB free), Google Drive (15 GB free), or uploading to YouTube or Vimeo and making the videos private (free). On YouTube or Vimeo, you will generally be limited to no single video being longer than 15 minutes. Another reason to keep your video clips short!

If you have a video project you would like us to consider, please [use the TMTV contact form](#) and select type: *Like to do a video*.

NEW: LIVE CLINICS WITHOUT TRAVELING

We're also going making more of our popular Backshop Clinic and DCC Decoded videos, hosted by TMTV regulars Rick Green and Bob Fallowfield, but we're doing them *remotely*.

Both of these fellows have agreed to work with us to spin up remote clinics using high-quality webcams that record a local video feed to an SD card. This way, we aren't subject to variable live webcam video degradation. The quality remains high.

The webcam also has an external audio mic input, so we're using a wired lavalier mic to we get a top quality audio feed. The guest will have two webcams, one giving the usual sitting at the work desk view. The other webcam sits on the desk with a flexible arm, allowing the camera to get a super closeup video recording of the action.

At first, we'll be testing all this new technology with me (Joe Fugate) being the guest so we can work out all the bugs in the process. So for a while, TMTV members need to get used to seeing a lot of Joe on these new remote live clinics!

Once we are ready (by November, we expect), we will be looking for modelers willing to be on TMTV for a live clinic using this new tech. If you're interested, use the button below. One final note, we pay an honorarium to guests! ■

Shopping list for this article: mrhmag.com/magazine/mrh2020-10/tmtv

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NEW TRAINMASTERS TV SEGMENTS

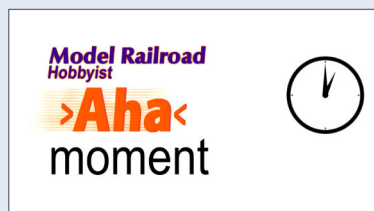
As part of our planned 2021 major look-and-feel refresh, we've been planning a number of new segments/shows. However, with the 2020 lockdowns, we decided to launch some of these new shows early.

New segments/shows launched already in 2020:

Make it run like a dream: Joe Fugate brings his popular *Run like a Dream* book series to video. Includes numerous concrete examples and further in-depth explanation of the recommended practices. Typical episode running time: 20-30 minutes.



Aha Moment: Seasoned modelers give a quick, cut-to-the-chase video on a valuable topic. Aimed at head-slapper topics you never knew you needed but later can't live without.



Typical episode running time: 5-10 minutes.

Other shows that will be coming, but we don't have an exact launch date yet.

MRH QAT: Viewer questions answered by MRH staff members. Expected running time: 15-20 minutes.

The Siskiyou Line 2: Joe Fugate takes you into his new SL2 layout TOMA workshop and shows how the "one module" approach can transform building a home layout in the 21st century. 20-30 minutes. ■

Check out this new TMTV series ...

Make it run like a

Dream

By Joe Fugate



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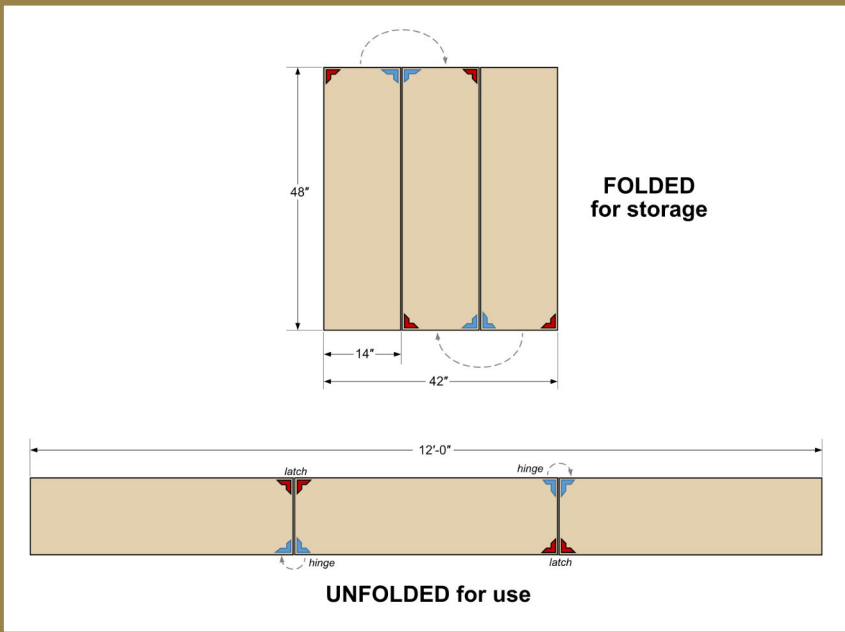


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Model railroading *on-the-go*



Model Railroad Hobbyist | October 2020



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TIM DUDLEY'S SWITCHING LAYOUT THAT FOLDS UP AND TRAVELS WITH HIM ...

I HAVE BEEN WANTING TO BUILD A SWITCHING LAYOUT BASED loosely on the Boston and Maine Railroad in the Massachusetts area, having an interchange with the Maine Central Railroad.

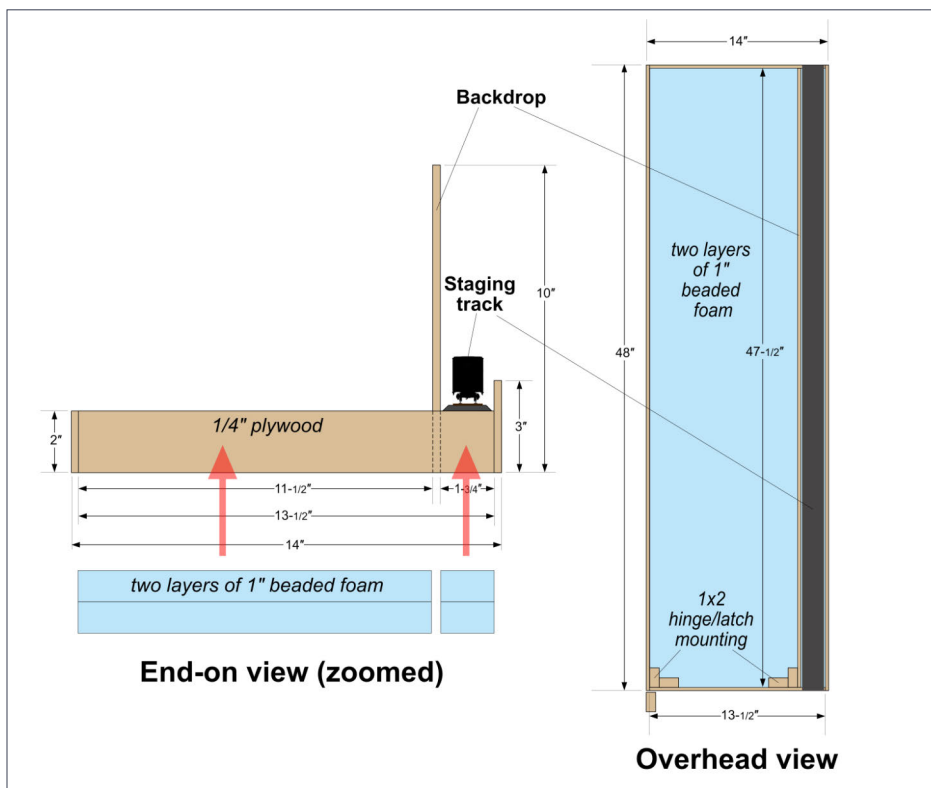
1. I designed my modules to fold up and fit into the storage space on my RV. The blue corners have hinges and the red corners have latches.

MODEL RAILROADING ON-THE-GO | 2

I came up with this design for an H0 scale sectional layout with three folding sections that hinge and lock together. I designed the layout to fit in a 42" by 48" space that's a foot tall, the exact space I have in the "storage space" under my fifth-wheel RV trailer.

When unfolded for operation, the layout takes up a space 14" deep by 12' long with a 10"-tall backdrop.

I designed the first section as an industrial area. I am making the second section into a typical New England countryside scene, with a river and covered bridge. Finally, the third section is a small town with lots of switching.



2. Diagram of module construction details



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Here's how I decided to make this work – I made the sections hinge together at the blue corners, and I use a locking mechanism to hold the sections together at the red corners [1].

BASIC DESIGN

I built each module out of basic bead-board foam and ¼" plywood [2]. Together, all three modules weigh about 10 pounds. I purchased the materials for each module's benchwork from a local home improvement store for about \$15.00 – less than \$50 for all three modules.

I cut two pieces of 1" foam 11-1/2" x 47-1/2" and glued them together with Liquid Nails for Projects (safe for foam). I glued two strips of foam 1-3/4" x 47-1/2" together as support for the staging track behind the backdrop [2]. Normally I wouldn't use this bead-board foam, but it's way cheaper than the extruded polystyrene foam I normally use.

Then using pre-cut pieces of ¼" plywood (see [2] for dimensions), I laminated the three side edges of the larger foam lamination with plywood. I then inserted a 10" x 47-1/2" piece of ¼" plywood for the backdrop.

Finally, I glued the 1-3/4" foam lamination strip to the back of the backdrop and glued on the rear ¼" plywood strip, forming a box to contain the foam with the backdrop strip inserted in between the layers of foam. I glued everything using Liquid Nails for foam.





3. I used two pieces of 1" bead-board foam to make the basic form of each module. The backdrop runs the length of the module minus 1/4" on each end and is 10 inches high – 2" is inserted into the foam, leaving 8" of backdrop exposed above the surface of the foam.



4. I made L-shaped corner braces from 1x2s, notched the foam, and glued them in place with Liquid Nails for foam. Hinges and latches hold the modules together at the 1x2s.



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5. I added Woodland Scenics roadbed behind the backdrop for the staging track. Originally I planned on a two-track staging yard behind the backdrop, but that narrowed the modeling space on the front side of the module too much, so I chose a single track behind the backdrop instead, which only cost me 2" of module width in front of the backdrop.

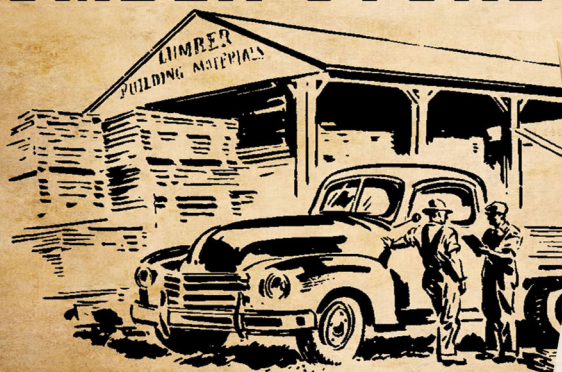
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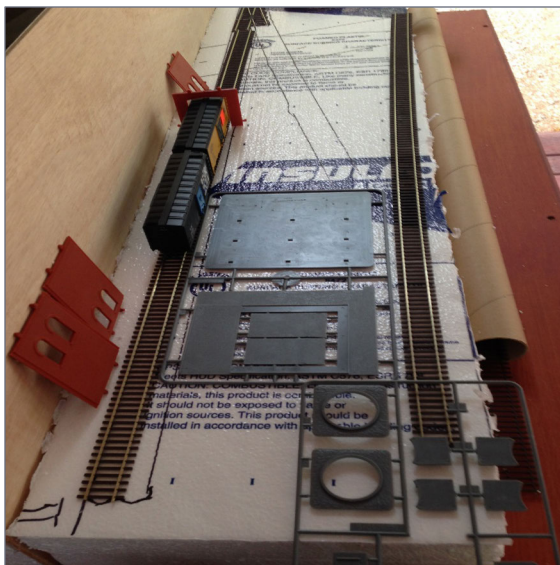


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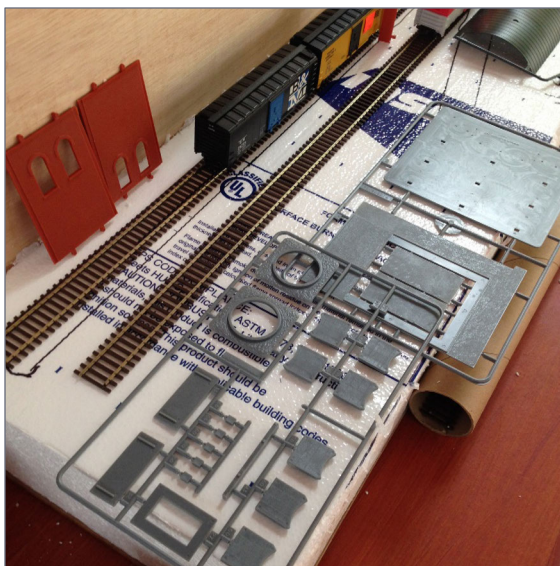
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6, 7. Now on to the front of the module for some initial planning.

The module I'm highlighting here contains a furniture factory and a heating oil facility, both fairly typical for New England. I changed the track plan from the photos to have the spur run parallel to the main.



I decided to put the industrial spur side-by-side with the main so the placement of the structures had adequate space for each of them in the scene.

For the furniture factory I'm using a DPM 4-in-1 kit, and for the heating oil facility I'm using a Walther's Interstate Fuel kit.



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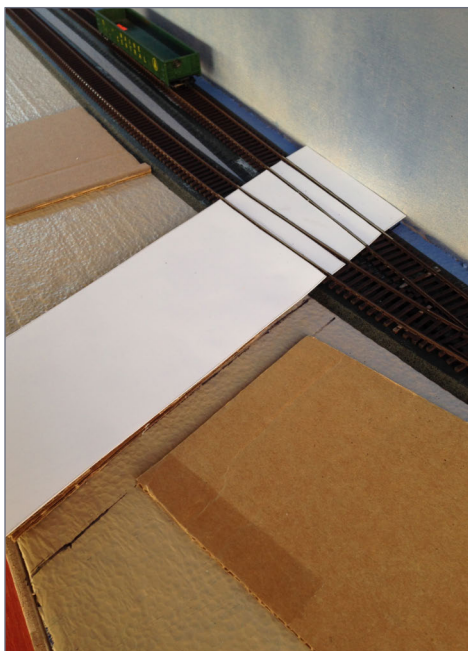
8. I painted the module foam a light tan dirt color using latex paint as a base.



9. I also glued cardboard to act as a base for the street I will add to the scene. Notice I lightly stenciled some clouds onto the backdrop.



10. Here I'm working on the track installation, basic land forms, and structure foundations. I use cardboard for all foundations. In the background there will be a building flat (furniture factory), a fuel dealer, and in the foreground of the photo I will install a church. What's a New England scene without a church?



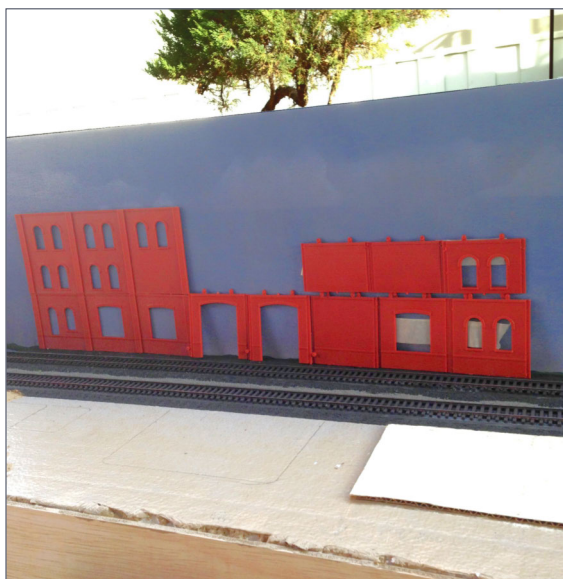
11. I made basic land forms out of glued cardboard and masking tape that I later cover with plaster and paint.

I made the road from a plastic yard sale sign I purchased at the dollar store. I trimmed the plastic and glued it to the cardboard base.





12. Initial building flat design took some thought as to the placement of each wall section and its function as part of the furniture factory.



13. I arrived at a final furniture factory wall section layout that will be glued together, painted, and detailed.



As I'm detailing these modules, I find my portable arrangement with the hinges and latches works well and allows me to take my switching layout with me on the road. Now there's no excuse for not having a layout! ☒



14, 15. I've finalized the track, weathered the structure walls, and now I'm starting to add scenery.

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16. I made a simple ground throw for the only turnout by using a slide switch and piano wire I had in my tool box. It's very effective, and not that noticeable when you scenic over it.



17, 18. I had to have a little country church for my New England layout. I used a Model Power kit for the church. I scenicked the area around the church and modeled the parking lot with Woodland Scenics Top Coat road mixture, both concrete and asphalt.

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19, 20. I also used Woodland Scenics Smooth-It plaster to form the driveway area for the local fuel dealer, painted it with a couple of coats of Top Coat asphalt mix, then sanded it.

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21. (Top left) Here is a drone shot of this end of the module, with things coming to completion.

22. (Bottom left) The fuel tank rack is the final piece to be installed. Then details and vehicles will be added to the scene.

23. (Top right) B&M 1728 switches a few boxcars at the furniture factory. It's always fun to operate a layout even when its not completed yet.



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TIMOTHY F. DUDLEY



When Timothy was a little boy, his dad hid an AHM train set so Timothy wouldn't find it until Christmas morning. That set started his love affair with the hobby.

He and his brother built a four-by-four foot oval layout on a piece of plywood that barely fit under their bunk beds.

Since then Timothy has built a dozen or so layouts in N and HO scales.

Timothy served in the US Navy from 1984-1990 and is now a licensed Assemblies of God pastor (www.newlife-cc.com), co-pastoring a church with his wife Cindy in Hurricane, Utah. He also enjoys playing bass on the worship team, train watching, and writing. ■



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First LOOK column

Model Railroad Hobbyist | October 2020



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JEFF SHULTZ CHECKS OUT THE ISO-TIP RECHARGEABLE SOLDERING IRON ...

I AM ALWAYS INTERESTED IN SOMETHING THAT CAN HELP IMPROVE my soldering, so when I was offered an Iso-Tip quick charge rechargeable soldering iron kit [1] to evaluate, I jumped at the chance.

The Iso-Tip is an interesting product. Normally, to change out the tip of a soldering iron you must loosen a set screw or unscrew the tip itself from the iron before installing the new tip. With the Iso-Tip #7700, the tip simply clips in [2, 3] to the cordless iron, with two prongs on the tip inserted into a two-piece copper socket.

I purchased a #7482 Long Life Ultra fine tip, which has a point between 0.010"-0.015" in diameter; a #7484 Long Life Micro tip, which has a 1/64" tip, and a #7591 Extended Micro, which has a longer 1/64" tip approximately one inch in length[4]. I wanted to see if I would be able make finer solder joints with the narrower tips.

I have used the Iso-Tip for three different soldering tasks so far; soldering Z scale Code 55 track together, soldering a Fast Tracks



1. Iso-Tip quick charge rechargeable soldering iron kit.

H0 scale code 83 turnout together, and soldering in a Decoder Buddy motherboard, LEDs, and a speaker.

I didn't have any difficulty soldering the track together, and the cordless iron made getting in and around the track a breeze.

Likewise, as long as I pre-tinned the wires and pads I was soldering, Decoder Buddy electronics soldering worked well.

I found the trick of using the very warm side of a hot iron's tip to shrink heat-shrink tubing didn't work, since the Iso-Tip concentrates its heat only at the tip.

I could easily solder rail to PC ties with the Iso-Tip. But if you plan to make a lot of turnouts with the Fast Tracks fixtures, consider buying a resistance soldering rig like their spokesman Kevin Marks uses.

The best thing about the Iso-Tip is its availability. I can leave it on my workbench plugged in 24/7 and it is perfectly safe. When I want to use it, I just need to pull it off its charger, twist the trigger button from lock to use, press down on the button, and



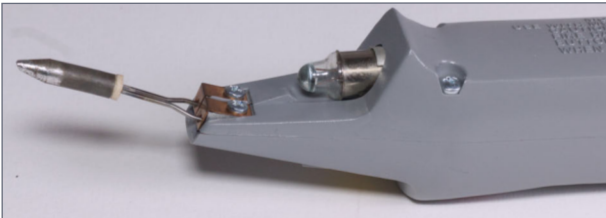


wait a few seconds for it to come up to temperature. It also comes with a light that serves the dual purpose of lighting your work and telling you that it is in use.

The Iso-Tip Quick Charge rechargeable soldering iron kit includes a #7700 Quick Charge cordless rechargeable soldering iron, #7728-100 charging stand, #7545 Standard Fine Tip 1/16" diameter, #7546 Standard Heavy-Duty tip 3/16" diameter, and the #7733 Quick Charge battery.

The Iso-Tip website is iso-tip.com. ☒

2. Tip socket.



3. Tip inserted in socket.



4. Additional tips.



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SAVVY MODELER *Online*



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Model Railroad Hobbyist | Octobere 2020



Awesome N scale diesel weathering

YouTube modeler *Trains and Dioramas* shows how he weathered this N scale diesel without an airbrush. That's right, using only washes and pastels, he did this very realistic and convincing job on this N scale diesel model.

This video runs for just 12 minutes and shows what's possible for getting some awesome realism. HO modelers, don't skip this video just because it's N scale! ■



► GREAT MODELER VIDEOS ON THE WORLD WIDE WEB

Floquil/PollyScale stash running out?



MRH has mapped the old familiar colors to readily-available acrylic paints.



MRH's Floquil / PollyScale Paint Equivalents Conversion Chart - 1

Floquil / PollyScale	Color (approx.)	Model Master	Valley / Monium	MRH Color	Notes
Primer Gray		MM 4743	VMA 71.050	16-02	
Engine Black		MM 4888	HL 29008 VMA 71.251	16-01	
Steam Power Black		MM 4795	VMA 71.027	16-08B	
Gray Black		MM 4797	VMA 71.021	16-08*	
Weathered (Cracked) Black		MM 4750	HL 29002 VMA 71.054	16-05	
Railcar Gray		MM 4887* MM 4761	VMA 71.045	16-04	
Railcar White		MM 4873	HL 29004 VMA 71.041	16-03	
Grain Black		MM 4887	HL 29002 VMA 71.050	16-03	
Caboose Red		MM 4887*	HL 29002 VMA 71.050	16-08	MRH has 4887 with 20% more black than 4887* to match the old Floquil Caboose Red.

* Indicates a close but not exact match. All MRH colors are a Semtex finish.
Valley Model Master's new Color Match is a shade lighter than the old Floquil Color Match.
1 Model Master's new Color Match is a shade lighter than the old Floquil Color Match.
2 Model Master's new Color Match is a shade lighter than the old Floquil Color Match.
Color 4887 (the right hand glass) is a closer match to the old Floquil color than 4887* (the left hand glass).

MRH's Floquil / PollyScale Paint Equivalents Conversion Chart - 2

Floquil / PollyScale	Color (approx.)	Model Master	Valley / Monium	MRH Color	Notes
Tan		MM 4887*	VMA 71.026	16-15	
Railcar Orange		MM 4887*	VMA 71.083	16-09	
Railcar Yellow		MM 4879	VMA 71.078	16-10	
Railcar Brown		MM 4884	HL 29009 VMA 71.249	16-11B	
Railcar Tan		MM 4885	HL 29001 VMA 71.029	16-08*	HL 29001 is a closer match to the old Floquil Tan than 4885.
Rail Brown		MM 4987*	VMA 71.039	16-12	
Red		MM 4875	HL 29005 VMA 71.037	16-12	
Concrete		MM 4876	HL 29007 VMA 71.032	16-11*	
Algal Concrete		MM 4875	HL 29007 VMA 71.032	16-07*	HL 29007 is a closer match to the old Floquil Algal Concrete than 4875.

* Indicates a close but not exact match. All MRH colors are a Semtex finish.
Valley Model Master's new Color Match is a shade lighter than the old Floquil Color Match.
1 Model Master's new Color Match is a shade lighter than the old Floquil Color Match.
2 Model Master's new Color Match is a shade lighter than the old Floquil Color Match.

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OCTOBER NEWS

column



Model Railroad Hobbyist | October 2020

RICHARD BALE AND JEFF SHULTZ
REPORT THE LATEST HOBBY
INDUSTRY NEWS ...



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NEW CLUB CARS



The **Southern Pacific Historical and Technical Society** is selling a ready-to-run model of an SP class H-70-16 twin-bay covered hopper car. The model

represents the March 1957 as-delivered version of a Pullman Standard PS-2 car with red lettering and heralds. The HO scale model was produced for SPH&TS by Kadee.



A 1:87 scale kit for a 22' round nose Daylight PMT trailer is also available from SPH&TS. Kits are available for trailers with and without side loading doors. The kit

consists of pre-painted sides, frame, roof, details, wheels, landing gear, rubber parts, and accurate decals. For additional information visit sphts.myshopify.com/collections/models.

THE LATEST MODEL RAILROAD PRODUCTS, NEWS & EVENTS

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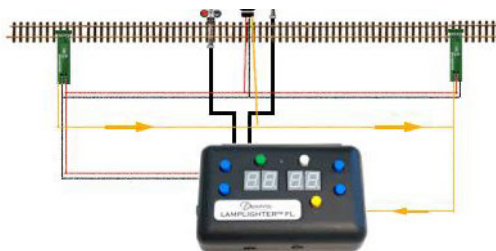
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NEW PRODUCTS FOR MULTIPLE SCALES



Dwarvin has announced the release of the Lamplighter FL, a fiber optic light source that can be programmed for animated light effects. Equipped with 8 ports with individual lighting modes, two fibers can be installed per port,

allowing for a total of 16 separate lights that can be turned to on/off, flashing, or blinking. The Lamplighter FL can be programmed either through its built-in keypad or DCC.



Also announced as a future release is a grade crossing system that will include the crossing signals, detectors, and sound, all controlled by the Lamplighter FL. For more

information visit www.dwarvin.com.

New hardback books coming next month from **Morning Sun** include volume 3 of *Penn Central in the Conrail Era*. In this third volume author Stephen M. Timko takes a look at former Penn Central territory under the control of Conrail between 1985 and 1989. Former PC motive power, equipment, and structures are featured, along with freight operations.

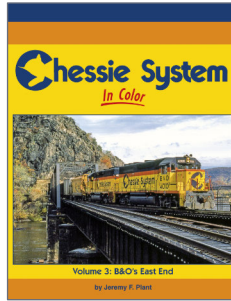
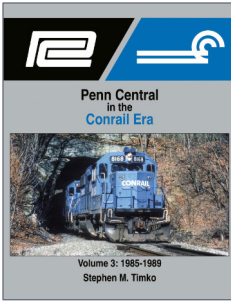
Also scheduled for release in November is *Chessie System: B&O's East End*, by Jeremy F. Plant. This third volume features B&O's colorful lines from Philadelphia and Baltimore to



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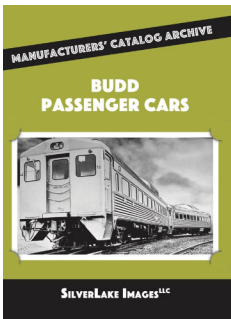
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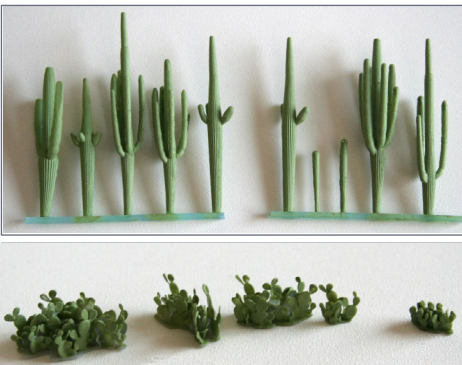
Grafton, WV and Connellsville, PA. Locomotives in Chessie colors as well as the three predecessor roads, B&O, C&O, and Western Maryland are portrayed in action. For

additional information contact a dealer or visit www.morningsunbooks.com.



Ron's Books is selling a 120 page softcover publication that provides an overview of the Budd Company, its products and operations, through the reproduction of several in-house Budd publications. The material covers Budd products circa 1950 as well as the 1970s and early 80s. Gallery Car Operations in the Chicago area, and the Budd Universal Rapid

Transit Car. Cars built for the California Zephyr, Burlington Route, Rio Grande and Western Pacific are all included. For additional information visit www.ronsbooks.com.



ZYX Creative is now offering 3D printed Saguaro Cactus in N and HO scales and Prickly Pear Cactus in HO scale. Other scales may also be available. Saguaro can be found along the SP, Santa Fe, Ferromex and N de M railroads and features a

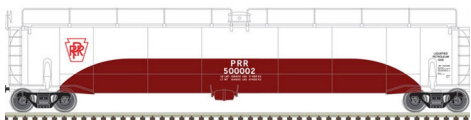
ribbed surface and horizontal bulge detail. Prickly Pear, available in various sized patches as well as individual pads, can be found throughout the US and Mexico, and is used in landscaping as well. For more information visit www.zyxcreative.com.

O SCALE PRODUCT NEWS



Atlas O has included a new 40' refrigerated container in its 2021 second quarter production schedule. The

new O scale model represents a standard 40' high-cube (ISO Type 45R1) refrigerated container. It includes a detailed picture window-style refrigeration unit. Decorating schemes for the new O scale model will be NYK Logistics, K-Line, ONE, and Maersk-Sealand.



Also scheduled for release during the second quarter of next year is an O scale 33,000-gallon tank car. The

Master series model is based on an ACF 1960s-era 33,156-gallon whale-body tank car designed to haul liquefied petroleum gas and anhydrous ammonia. Details include a see-through roof walkway, separately applied grab irons, and 100-ton roller-bearing trucks with rotating bearing caps.



Road names will be GLNX (with conspicuity stripes), Transerv Systems, Genstar Chemicals, Pennsylvania



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Railroad, Penn Central, Norfolk Southern (Safety Train), Solar Gas, and Petrolane.



Completing the list of new O scale models coming from Atlas O during the second quarter of 2021 is a bay window caboose. The Atlas

Trainman model is based on Southern Pacific class C-30-6 cabooses introduced in the early 1950s. The general design is similar to cabooses found on the nation's railroads both large and small.



Features include a see-through running board, separate brake lines, interior lighting with a chassis mounted switch, and solid-bearing

caboose trucks with 33" metal wheels.



Road names will be Norfolk Southern, Nickel Plate Road, Long Island, Chicago Great Western, Chessie System, Erie Lackawanna

(Bi-Centennial), NYSW, Southern Railway, Union Pacific, and Union Pacific (white police scheme). An undecorated model will also be offered. Atlas O rolling stock is available with a choice of 2-rail or 3-rail trucks and couplers. For additional information contact a dealer or visit www.atlaso.com.



Williams by Bachmann now has GE 70-ton diesel locomotives in 3-rail O gauge. Featuring "True Blast Plus" 16-bit polyphonic sound, the model is equipped with dual flywheel

equipped motors, die-cast frame and trucks, LED lighting, an electronic reverse board with directional lock-out, engineer cab figure, and flush-mounted windshield with separate wipers. The model will travel around O-27 curves. Roadnames include Southern Pacific, Canadian National, Tropicana, and Rutland. For more information visit shop.bachmanntrains.com/index.php?main_page=index&cPath=491_495_1093.



R. Bale

USRA TWIN-BAY HOPPER

At the beginning of World War I, serviceable freight cars were in drastically short supply. To solve the problem quickly, the federal government nationalized the railroads under the United States Railway Administration. One of the USRA's first tasks was to develop standard designs for basic freight cars that could be built quickly by any of the nation's car builders. Among the USRA designs was a 30' twin-bay open hopper car. The USRA hopper was rated at 50-tons with a capacity of 1,880 cubic feet. It had eight flat panel sides supported by exterior posts. Most of the more than 25,000 built were equipped with Andrews-type 2D-F3 trucks. Many were upgraded in later years with AB brakes replacing the original K system.

HO SCALE PRODUCT NEWS



Accurail has released HO scale kits for USRA twin-bay open hopper cars decorated for Susquehanna & New York and for

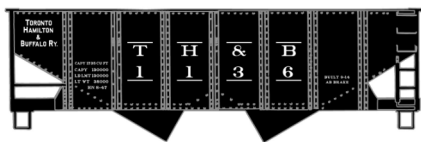
Toronto, Hamilton & Buffalo. The model closely matches the prototype with the principal dimensions of length, width, height, and truck centers being accurately replicated.



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Data on the car's sides indicates the S&NY car was upgraded in 1938. The TH&B hopper was rebuilt in 1947.



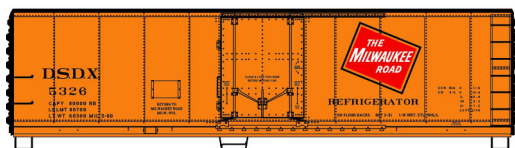
Also new from Accurail is a kit for a 36' Fowler boxcar decorated for Pittsburgh & Shawmut. The HO scale model is

based on a prototype built in April 1930.



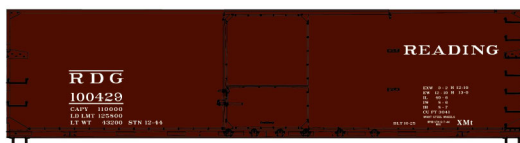
This Archer Daniels Midland triple-bay covered hopper is available as a kit from

Accurail. The HO model follows a 4750 cu. ft. prototype Pullman Standard delivered in 1996.



Accurail has released a 40' steel refrigerator car with a plug door decorated for Milwaukee Road DSDX (Dairy

Shippers Despatch Co.). The HO scale model represents a car built in 1951.



Completing the list of recent release of HO scale kits from Accurail is a 40' Reading USRA double sheathed

wood boxcar. All Accurail kit come with appropriate trucks with plastic wheelsets and Accumate knuckle couplers. For additional information contact a dealer or visit www.accurail.com.

Athearn has announced plans to produce another run of the Union Pacific DDA40X. The Genesis model is based on the



massive eight-axle
6,600hp diesel
electric locomotive

EMD built exclusively for UP in the late 1960s. Athearn has elevated its HO version of the DDA40X to Genesis 2.0 status. Upgrades include illuminated number boards and classification lights, working ground lights, etched see-through ladder steps, dual sugar cube speakers, and rubber MU hoses. The model will be available in six road numbers with each one having number-specific details. Delivery is planned for August 2021.



Athearn has included an EMD SD40-2 in its August 2021 production schedule. More than two dozen

road name/road number versions of the HO scale Ready-to-Roll model will be available including six UP units. Additional road names include Arizona & California Railroad, Rapid City, Pierre & Eastern; Canadian Pacific, Ferromex (two schemes), Burlington Northern, and Onieda & Western. Completing the run is an SD40-2 specially decorated to mark Athearn's 75th Anniversary. The SD40-2 will be available without sound and with a Soundtraxx Econami DCC decoder with dual cube speakers.



Athearn's August 2021 production schedule includes a new run of Union

Pacific class CA-8 cabooses. The feature-laden Genesis series model features DCC sound, sliding cupola side windows, cupola-mounted marker lights, and solid-bearing or roller-bearing caboose trucks as appropriate to the specific car being modeled. Athearn will offer six different UP CA-8 cabooses decorated in a variety of paint schemes and safety slogans.



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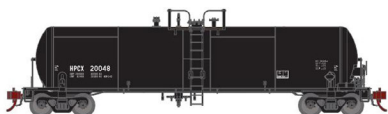
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Union Pacific's class CA-9 caboose differed only slightly from the earlier class CA-8 in the end cage

and window arrangements. Athearn has included six UP CA-9 cabooses with different numbers and decorating schemes in the August 2021 release. The Genesis DCC-equipped models will be available with and without sound.



A GATC 20,000-gallon tank car in a choice of six decorating schemes is due from Athearn next August. Road names for the

Genesis series model will be UCLX, HPCX, and four GATX schemes. Depending on the practice of the prototype road being modeled, the well-detailed HO scale Genesis car will have 70-ton trucks with 33" machined metal wheels or 100-ton trucks with 36" wheels. Both truck sizes will have rotating bearing caps. The models will be available singly and in 3-packs with unique road numbers.



New Ready-to-Roll models coming from Athearn next August include a Gunderson MAX-III 5-unit well-car. Road names will be Santa Fe, Burlington Northern, Southern Pacific, Ferromex, and two TTX schemes. The models are equipped with prototypically correct 33" and 38" metal wheels.



Ortnor 5-bay rapid discharge hopper cars with removable loads are due from Athearn next August.

The HO scale models feature wire grab irons and machined metal wheelsets. Road names for cars in coal service will be Energy Development Co., South Mississippi Electric Power, and Omaha Public Power.

Cars in sugar beet service include The Andersons (Holly Sugar, 3 schemes), Helm Leasing, and Cape Breton & Central Nova Scotia. Sugar beet models will come with etched upper extensions in a poly bag. The cars will be available singly and in 5-packs with unique road numbers.



Athearn has included a modern yard tractor in its August 2021 production schedule. The 1:87 scale trucks feature photo-etched steps and rear deck, an

adjustable 5th wheel, interior details, window glazing, and rubber tires. Decorating schemes will be Canadian National, Wisconsin Central, Hybrid, UPS, CSX, and BNSF Railway. Unlettered owner operator models will be in yellow and white.



Roundhouse brand models coming from Athearn next August include a PS-2 2003 cu. ft. covered hopper car.

The HO scale model has been upgraded with a photo-etched running board and machined metal wheelsets. Road names will be Chessie-Western Maryland, Denver & Rio Grande Western, Northern Pacific, and two schemes each for Southern Pacific, Milwaukee Road, and Chicago & North Western. Road names will be available singly and in 4-packs with unique road numbers. For additional information contact a dealer or visit www.athearn.com.



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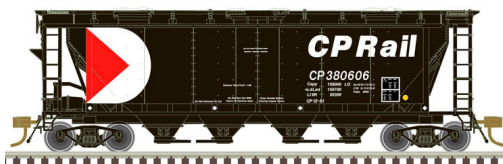
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R. Bale

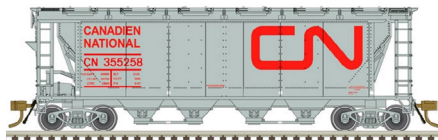
SLAB SIDE COVERED HOPPERS

In the late 1940s Canadian Pacific introduced a 70-ton, 3000 cubic foot covered hopper car with four discharge bays, interior bracing, and smooth, welded sides. The design, which earned the nickname “slab side”, maximized the interior width of the car and lowered the center of gravity. Cars of the design were produced from 1950 to 1964 by National Steel Car Company, Canadian Car & Foundry, Marine Industries, and Montreal Locomotive Works. Modifications over the years of production included different roof hatch arrangements and opening the side sills to give better access to the discharge mechanisms. Through the late 1990s the cars were a common sight hauling grain, malt, sugar, cement, and other dry commodities on Canadian and US rails.



Atlas plans to release several versions of the Canadian slab side covered hopper car during the second quarter of 2021.

The Master series HO scale model will be produced from tooling Atlas recently acquired from True Line Trains, a defunct firm formerly known as Life-Like of Canada. Slab side hoppers decorated for Canadian Pacific cars will be available with six and eight roof hatches.



Models decorated for Canadian National will be available in two schemes with both 6 and 12 hatch arrangements.

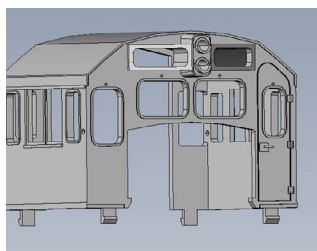


A TH&B model will have eight round roof hatches. Undecorated models will also be available.



Atlas has scheduled another production run of its Master Series GE U33B and U36B diesel

locomotives for the second quarter of next year. The HO scale model features a newly tooled cab.



Features on the Atlas Master series model include separately applied windshield wipers, metal grab irons, uncoupling levers, and directional LED headlights. Depending on the practice of the prototype road being modeled an optional electrical

equipment box will be included on the left side walkway behind the cab. Additional prototype options include AAR-B or Blomberg trucks with blackened metal wheels.



The 1970-era prototype locomotives had slightly different horsepower ratings but were visually identical. Road names for

the U33B will be Conrail, Guilford (B&M), and Rock Island.



Road names for the U36B will be CSX, CSX (MCVX Safety Train), Auto Train, and Seaboard Coast Line. Atlas Master Series Gold

DCC locomotives feature an ESU LokSound DCC decoder.



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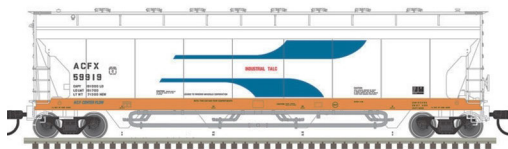
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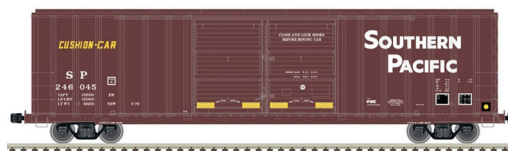
Atlas has included a Master series Center Flow Pressureaide covered hopper in its production schedule for the second

quarter of 2021. The HO scale model is based on a four-bay prototype built by ACF for handling dry, powdered commodities.



Decorating schemes will include ADM leaf design, ADM Molecule, ACFX Venturi, ACFX (conspicuity stripes), ACFX (orange

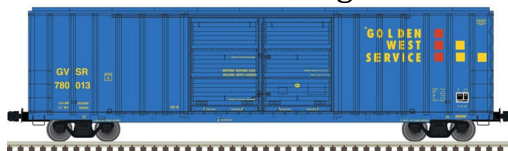
sill), Luzenac America, Grace Davison, OMYA, Solvay Chemicals, and Penwest. The model will have etched metal roof walks, Accumate knuckle couplers, and 100-ton roller-bearing trucks with blackened metal wheelsets.



An HO scale version of FMC's 52' non-insulated Plate C boxcar is included in Atlas' 2021 second quarter production

schedule. A spotting feature of the 5503 cu. ft. car is the overhang beyond the truck bolsters and the cushioned underframe. FMC's original customer was Southern Pacific,

which ordered the car with double Youngstown sliding doors for lumber service.



In addition to SP, road names for the 52' car will be Amador Central, Golden West Service, Minnesota, Dakota & Western; St Maries River Road, and Longview, and Portland & Northern.



Model builders will be pleased to learn that Atlas has included kits for a 40' 1937 AAR boxcar in its 2021 second quarter production schedule. The economy priced HO scale

Trainman series kits consist of a one-piece body with details molded on, and an underframe with brake details. The kit will include 50-ton Barber S-2 trucks with metal wheelsets.



Road names for the classic 40' boxcar will be Lackawanna, Lehigh Valley, Maine Central, New Haven, Pittsburgh & Lake Erie, Southern Pacific, Union

Pacific, Wabash, and Western Pacific. For additional information contact a dealer or visit atlasrr.com.



R. Bale

PRR FLEET OF MODERNISM

Fleet of Modernism was a marketing program the Pennsylvania Railroad launched in 1938 to promote its new lightweight passenger equipment. The streamliner revolution within the railroad industry got underway in 1934 with the introduction of the Burlington's Pioneer Zephyr and the Union Pacific's M-10000. At the time the PRR took a conservative view of the new, unproven concept of lightweight equipment, deciding not to order any. The Pennsylvania Railroad did an about face a few years later after its major competitor, New York Central, revealed it was upgrading its 20th Century Limited to full streamliner status. PRR quickly made plans to not only update its flagship, the Broadway Limited, but also three other long distance trains. Pullman Standard built most of the new PRR Fleet of Modernism cars. All were delivered in a striking new livery designed by Raymond Loewy.



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in the Pennsylvania Railroad's Fleet of Modernism scheme. Leading the consist is a 72' baggage car.



This 85' smooth side PRR coach with a lighted interior is available in three car numbers.



Bachmann's 85' observation car, Juanita Narrows, features a round end and interior lights. A

22" minimum track radius is recommended for trouble free operation. For additional information contact a dealer or visit www.bachmanntrains.com.



Bar Mills Scale Model Works has released an HO scale craftsman kit titled REA Depot at Cranberry. The model recreates, with permission, a structure originated by George Sellios for his fabled Franklin & South Manchester layout. The

craftsman-style kit, which includes the figures, features laser-cut construction. Assembly instructions are augmented with a 23-minute video. For additional information visit www.barmillsmodels.com.

Berkshire Valley Models has added three more wagons to their line of HO scale wagons. The new wagons are the #2106 Log Wagon, the #2107 Watkins Delivery Wagon, and the #2108 Buggy. Constructed of white metal and laser cut wood,



the kits are easy to assemble. Horses and drivers are available separately. For more information visit www.berkshirevalleymodels.com.

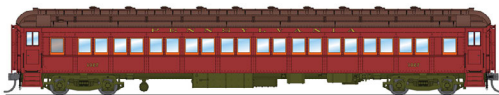


R. Bale

PRR P70 COACH

The P70 was the PRR's first 80' all-steel coach. The P prefix designated a passenger car while the 70 indicates the length of the passenger compartment.

Between 1907 and 1929 over 1,000 of the heavyweight coaches were built by Altoona and several other car builders. The design was standardized except for the windows at the washrooms at the end of the cars which varied slightly between builders. The early cars featured 88 seats, but as of 1926 they were built with just 80 seats. After the installation of air conditioning, which began in 1933, the cars were identified as P70R.



different decorating schemes. PRR cars are available without air conditioning in the 1931 to 1937 and 1939 to 1941 livery.



Broadway Limited has released HO scale P70 coaches in several

P70R coaches with air conditioning and ice bunkers are available in the 1945 to 1948 scheme.



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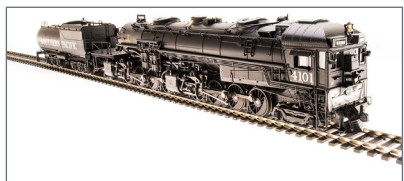
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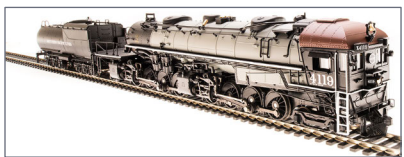
PRSL-Pennsylvania Reading Seashore Lines P70 coaches without A/C are also available. In

addition to the authentic PRR and PRSL schemes, Broadway Limited has issued the P70 cars in fantasy schemes for a Christmas car and for CNJ, NYC, MEC, and CN.



Broadway Limited has released HO scale models of Southern Pacific 4-8-8-2 cab-forward locomotives. Both AC4 and AC5 flat faced cab forwards are

available in this release, however the two classes were identical in appearance with the only difference in the prototype being the use of heavier materials in fabricating the boilers and smokebox of the AC5s.



BLI painting options include models with a black boilers, gray boilers, and gray boilers with red cab roofs. Tenders are available

both plain and lettered Southern Pacific Lines.



Carrying fantasy decorating to the extreme, BLI is offering the cab forward in SP's red and orange Daylight scheme. Broadway

Limited has offered cab-forwards before, however, these are the first models with Paragon3 and BLI's Rolling Thunder sound and control system. The HO scale cab forwards require a minimum track radius of 22".

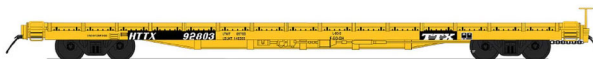
For more information contact a dealer or visit www.broadway-limited.com.

InterMountain Railway has released a new production run of 60' flat cars with four tie-down channels. The HO scale



appropriate trucks with machined metal wheels.

ready-to-run model features a laser-cut wood deck and



Road names are Illinois Central, Nacionales de Mexico, Canadian

National, Soo Line, Norfolk Southern (ex-Southern), HTTX Trailer Train (New logo patch), and both brown and yellow versions of HTTX Trailer Train with both brown and yellow bodies. For additional information contact a dealer or visit www.intermountain-railway.com.



Kadee is selling a Pullman Standard 50' PS-1 boxcar decorated for Burlington Northern. The HO scale model represents a prototype built in

1966 with a cushion underframe and 10' Youngstown sliding doors. During a 1982 rebuild the running board was removed and all ladders were shortened. For additional information contact a dealer or visit www.kadee.com.



Maple Leaf Trains has released several new detail items including a laser-cut picket fence with 3D printed posts.



Also new are two sizes of 3D roll-around mechanics tool carts, and a drum-style



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exhaust stack. For additional information, visit www.mapleleaftrains.com.



Micro-Mark is offering several new laser-cut kits from Scientific in HO scale. Among them is Parson's Home, representative of a Gothic Revival style Victorian home that was available as a Sears kit. The two-story house features a full-front porch, double width front doors, and is constructed of laser-cut basswood.



A second kit is the Protestant Church, which also features laser-cut basswood construction as well as Tichy windows and accessories. The 5" x 5" structure consists of a sanctuary and attached steeple.



Offered exclusively by Micro-Mark is a 3D-printed forklift model kit in HO scale. Consisting of eleven parts and

printed in light gray resin, the model represents a propane fueled forklift that is commonly found at all sorts of industrial sites. Illustrated instructions are included. For more information on any of these products as well as other new offerings, visit www.micromark.com.



New from **Mine Mount Models** is Pinales Petrol, a model of an early/mid-20th century gas station. Covering an area 7" x 2," the kit consists of Mt Albert Scale Lumber siding, Tichy windows and doors, BEST Trains metal castings, four each

of two different styles of gas pumps, and a laser-cut roadside sign that extends over the roof. For more information visit minemountmodels.com.



Monster Modelworks has reissued its kit for an HO scale two story brick building with a customized storefront. With the purchase of the kit, Monster Modelworks will engrave any name on the storefront sign.



The craftsman type kit includes 3D laser-engraved old brick walls, corners, terra cotta coping and a chimney. The storefront, cornice, and arched window lintels are also 3D laser-engraved. The windows and glazing are laser-cut peel & stick. The assembled structure has a footprint of 3.3" wide by 5.3" deep.

Monster Modelworks is now offering a variety of HO and O scale laser-engraved brick and stone wall materials.



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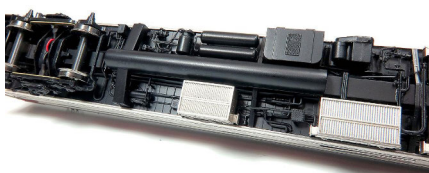
For additional information visit www.larkspurlaserart.com/?utm_campaign=71c6194f-2806-489f-a32d-f4a29a007b5c&utm_source=so&utm_medium=mail_lp&cid=1268240c-1472-45ed-ac20-fc590b81cb18.



stainless steel baggage-dormitory car and a Manor sleeping car.



The HO scale models will have metal grab irons and stirrups, multi-color interiors, track-powered interior lighting compatible with DC and DCC layouts, full underbody detail including separate air, steam, and electrical lines, and complete D22 brake equipment and piping.



equipped with detailed 41-NDO-11 trucks with end frames and metal wheelsets.



Rapido's baggage-dorm is based on a Canadian Pacific prototype built by Budd in 1954/55.



The models will be painted in Rapido's well-regarded stainless-steel finish. Road names for the Budd baggage-dorm will be CPR (maroon), CP Rail (Action Red), VIA Rail (original scheme), VIA Rail Canada, Atlantic Coast Line, Amtrak (Phase 1), Santa Fe, New York Central, Seaboard Air Line, Southern Pacific, and Union Pacific.



Rapido's Manor sleeper replicates a 4-4-5-1 car with four sections, four roomettes, five double bedrooms and one compartment. Budd delivered the sleepers to Canadian Pacific in 1954-55.



Each road name will be available in four or six individually named cars.

Six names will be available for Canadian Pacific (Maroon scheme), CP (Action Red), VIA Rail Canada (1978-1998 scheme), and VIA Rail Canada (1998-present). Four names will be available for Amtrak and Seaboard Air Line.



In light of Rapido's well-earned reputation for authenticity, these two new Budd passenger cars promise to be among the most accurately detailed HO scale models produced to date. For additional information contact a dealer or visit www.rapidotrains.com.



prototypically accurate freight cars. Kit #IC-RPM2019 modifies an Accurail 7100 series HO scale boxcar into an accurate

Resin Car Works has specialty kits with decals and detail parts that hobbyists can use to convert off-the-shelf models into

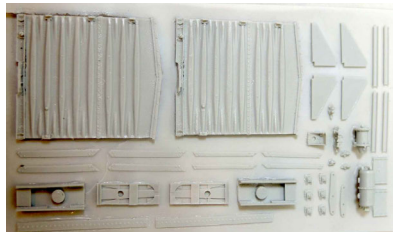


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model of an Illinois Central single-sheathed wood boxcar built in 1927.

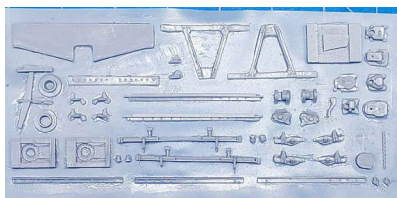


The kit includes a sheet of resin detail parts, new ends, underframe components, and additional prototype-specific hardware.



Kit #C&EI-HM provides materials to transform an Atlas twin-bay hopper car with offset-sides into an accurate replica of a Chicago

& Eastern Illinois 97500-97999 series hopper car. The prototype was built by Pullman-Standard in November 1945.



The kit includes accurate decals and cast resin slop sheet supports, door latches, and additional prototype-specific hardware. A similar kit (#MP-HM) is available for a Missouri Pacific

hopper built by ACF in the late 1930s. For each of the kits mentioned the hobbyist supplies the basic model to be upgraded. For additional information visit resincarworks.com.

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In



**RUNNING
EXTRA**





R. Bale

GE ES44 LOCOMOTIVE

In 2002, GE introduced its GEVo series of modern diesel locomotives. The first two units were the ES44DC and ES44AC. The ES44C4 followed a few years later. The GEVo series was designed to replace earlier AC4400CW and Dash 9-44CW units, while complying with new emission standards imposed by the Environmental Protection Agency (EPA). The EPA established allowable emission levels, or tiers, based on a locomotive's date of manufacture. Tier 2 took effect in 2005 followed by Tier 3 in 2010. Although EPA Tier 4 standards went into effect in 2015, ES44s continue to be built. This is due to a complicated government formula that allows sharing and redistribution of emission credits between GE and the operating railroad. The external appearance of ES44 locomotives is similar to the AC4400CW with the most significant visual difference being the larger radiator wing structure on the back end of the locomotive. The thicker radiators and related equipment work to cool the exhaust, which reduces emissions. The ES44 has become the best-selling diesel locomotive of all time.



ScaleTrains.com has scheduled a December release for a new production run of HO scale

GE ES44 diesel locomotives. Road names for the Rivet Counter models include units equipped with GE Hi Ad trucks decorated for KCS and Canadian National.



The feature-laden models include deck mounted LED ditch lights, walkway lights

and ground lights on the left side of the locomotive. The CN model also has ditch lights on the rear deck and red DPU marker lights.



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Additional road names for the ES44 will be Norfolk Southern (Horsehead scheme), BNSF (Heritage III scheme with C4 A-1-A

trucks), and four CSX liveries with GE steerable trucks. In addition to YN3, the CSX units will be available decorated in a 2019-era First Responder scheme (above) honoring the Pride in Service initiative. Additional CSX schemes in this project honor Law Enforcement and Armed Forces.



A less detailed Operator series GE ES44 is scheduled for release next

March. The economy priced Operator model utilizes the same motor and drivetrain as Rivet Counter series, however, all units will have the same cab and long hood configuration and the body will be predrilled for the modeler to install grab irons, uncoupling levers, and hoses. The needed parts may be purchased in a separate detail kit.

Road names will be BNSF Heritage III scheme, Canadian National, CSX YN3, Kansas City Southern, and Norfolk Southern Horsehead scheme. The Operator series ES44 will be available for DC/DCC operation with 21-pin connector or with ESU LokSound 5 DCC & sound pre-installed at the factory. For additional information visit www.scaletrains.com.



Southern Heritage Models has released two new models. The Quinnimont "QN" Cabin is available exclusively from the C&O Historical

Society, and the two-story Section Foreman's House is

available exclusively from the N&W Historical Society. For more information or to purchase these products visit the C&O Historical Society at chessieshop.com and the N&W Historical Society at www.nwhs.org/commissary.



Tangent has completed another production run of the GATC 10,000-gallon radial course tank car it originally introduced in February 2018. This latest release of the HO

scale model includes a rerun of the 1947-era SRDX Sinclair car with an AB brake system and new road numbers. Additional tankers with AB brakes include a 1964-era ACDX Allied Chemical car.



Noteworthy features on Tangent's 10,000-gallon car include a new 1917-era underframe, a radial course tank body with circumferential rivets,

see-through cast knees above the bolsters, separately applied air hoses and tank strap details, and wire grab irons and uncoupling bars. The hand brakes, brake system (KC or AB), and Cardwell draft sill springs vary depending on the prototype car being modeled.



Completing Tangent's current production of the 10,000-gallon radial course tank car with K brakes is a GATX car leased to Sunburst Refining. Undecorated models are

also available. The ready-to-run HO scale model comes with Kadee couplers and ASF cast steel spring plank trucks with separate brake beams and 33" machined metal wheels. For additional information visit tangentscalemodels.com.





wire grab irons, separate brake gear, and underframe cushioning details. Walthers coil cars decorated for Indiana Harbor have round hoods.



Cars with fiber glass hoods are available for Grand Trunk Western, Detroit, Toledo & Ironton; and Missouri-Kansas-Texas.



Walthers HO scale coil cars decorated for Penn Central and Bessemer & Lake Erie have angled hoods. Additional

hoods are available for each road name. All versions ride on 100-ton roller-bearing trucks with 36" machined metal wheelsets.



Walthers is scheduled to release a new Cornerstone kit this month for an HO scale post WW-II prefab house. The model is based on thousands of factory-built, prefab

houses manufactured from 1945 to the early 1950s. They were delivered by truck to a home site and rapidly assembled. Walthers kit includes two different front walls, picture window and three doors. The assembled kit has a footprint of 4.25" x 3.5". For additional information contact a dealer or visit www.walthers.com.

N SCALE PRODUCT NEWS



Atlas is scheduled to release a new production run of EMD GP15-1 diesel locomotives during the second quarter of next year.



The N scale model is based on a 1,500hp four-axle light road switcher EMD produced between 1976 and 1982.



Road names for Atlas' N scale version include California Northern, Burlington Northern, Missouri Pacific, Conrail,

GMTX, Union Pacific, and York Rail. The DC model will have a DCC-ready plug for installation of an aftermarket decoder.



A new production run of Pullman-Standard 40' PS-1 boxcars is included in Atlas' 2021 second quarter schedule. Features of the N scale model include body mounted Accumate couplers, Barber S-2A 50-ton trucks with metal wheels, and etched metal running boards.



Road names will be New Haven, Port Huron & Detroit, Western Pacific, Vermont Railway, MKT, Erie Lackawanna, TP&W, and Dela-

ware & Hudson. An undecorated model will also be available.



Also coming from Atlas next year is an N scale PS 4000 cu. ft. triple-bay covered hopper car. The Master series model is based on the PS-



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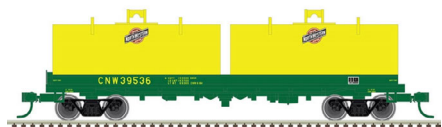
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2CD (center discharge covered hopper) Pullman Standard introduced in the early 1960s.



Features on Atlas' ready-to-run N scale model include etched roof walks and brake platforms, and BLMA 100-ton trucks with 36" metal wheelsets. Road names will be Santa Fe, Burlington Northern, Monon, CSX, Kansas City Southern, and Nickel Plate Road.



Atlas has included a 48' cushion coil-steel car in its 2021 second quarter production schedule. The N scale model is based on a prototype built by Evans Products in 1967. Features of the Atlas model include a diecast body, two removable rounded hoods with stacking frames, and a detailed wood lined floor.



Road names will be C&O, Conrail (with NS hoods), Chicago & North Western, Illinois Central, Indiana Harbor Belt, and Norfolk Southern.



Completing Atlas' 2021 second quarter N scale production schedule is a Trainman series 70-ton ore car. The economy priced ready-to-run model will be equipped with Accumate couplers and appropriate trucks with brown plastic wheels.



Road names will be Canadian National, CP Rail, Milwaukee Road, Great Northern, Union Pacific, and Duluth, Missabe & Iron Range. For additional information on Atlas models contact a dealer or visit www.atlasrr.com.



R. Bale

THE SUPER DOMES

The Milwaukee Road began taking delivery of the Super Domes from Pullman Standard in late 1952.

The domes were used on the daytime Twin Cities Hiawatha and the transcontinental Olympian Hiawatha. The Super Domes were not a complete success in Milwaukee Road service. The heavy cars gave a rough ride, and the seats in the dome area gave a poor view because they were positioned too low in relation to the cars supporting bulkheads. Still, the fame of having the first full-length dome car was good publicity for the railroad. By 1961 the Super Domes were assigned to the City of Denver under the joint operation of Milwaukee Road and the Union Pacific. Six of the super domes were sold to CN in 1964 for use on the Super Continental. VIA Rail inherited all six and used them into the early 1980s when they were sold off to private owners.



Shops Superdome passenger cars. The N scale models will have wire grab irons, interior details and lighting, and truck mounted knuckle couplers.



InterMountain is taking advance reservations for another production run of Centralia Car

Road names include Milwaukee Road, Milwaukee Road/Union Pacific, Great Northern (Empire Builder; Big Sky

Blue, and Cascade Green), Chicago & North Western, Amtrak (Phase 1, Phase 1 N.C. DOT; and Fall Foliage schemes), Holland America Westours, VIA Rail, Canadian National, Ontario Northland, and CSX Safety Train.



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Ten of the 14 paint schemes are being offered with the same road numbers as the previous run because

these were the only numbers assigned to the prototype cars. Production of each road name listed above may be dependent on InterMountain receiving a minimum number of advance reservations. The deadline for reservations is October 31, 2020. For additional information contact a dealer or visit www.intermountain-railway.com.



New N scale containers from **Jacksonville Terminal Co.** include this 20' standard height container decorated for Norfolk Southern OAR.



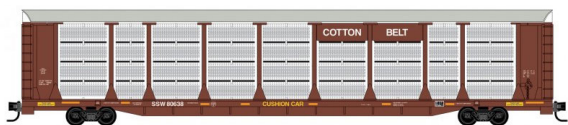
Jacksonville has also released 40' high-cube corrugated containers for Capital and in two CMA-CGM schemes.



Additional new containers include Fesco (Far East Shipping Co.), Hanjin, Ivaran, ONE GCXU, P&O Nedlloyd (gray), SEAGO Line, TOUAX/MOL, and Triton. All Jacksonville containers feature a three-magnetic

connecting system. For additional information visit jtcmodeltrains.com.

New N scale models from **Micro-Trains Line** include this 89' tri-level closed autorack decorated for SSW-Cotton Belt.



The model represents a prototype built in 1976 by Pullman-Standard.



Also new is this 39' single dome tank car decorated for the Salt Lake, Garfield, & Western Railway. It had a small fleet of freight cars including a few tank cars it acquired in 1946.



The design of Micro-Trains N scale heavyweight depressed-center flat car was influenced by a

prototype acquired by the Norfolk & Western in the early 1950s. The car was later repainted for the Norfolk Southern. Since the dropped underframe could not accommodate brake linkage, each truck has its own brake wheel.



This 36' Santa Fe steel caboose with offset cupola represents an ATSF way car in the post-1971 paint scheme that included four reflective white Scotchlite rectangles on the side sills. For additional

information on Micro-Trains models contact a dealer.



Rapido has announced plans to produce a 10-car set of The Canadian, Canada's flagship passenger train, in N

scale. The models will be finished in Rapido's well-regarded



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stainless-steel finish. Additional features include etched-metal grab irons and handrails, accurately profiled Budd fluting, full underbody detail including piping and conduits, full interiors, and track-powered interior lighting that functions on both DC and DCC powered track.



Each Canadian 10-car set will consist of a baggage-dormitory car, two coaches, a Skyline dome-coach (or dome-coffee shop car), a diner, two Chateau sleepers, two Manor sleepers, and a dome-sleeper-lounge observation car.



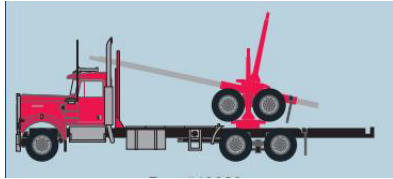
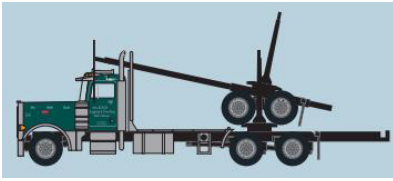
Individual Skyline mid-train dome cars and 3-car add on sets consisting of a coach, Manor sleeper and Chateau sleeper will also be available.



Decorating schemes will be Canadian Pacific (The Canadian, maroon), CP Rail (Action red),

VIA, VIA Canada, and unlettered. The deadline for ordering the N scale Canadian is October 15, 2020. For additional information, or to place a reservation, contact a dealer or visit www.rapidotrains.com.

Trainworx has announced three new N scale log trucks, a Peterbuilt 379, Kenworth T800, and Kenworth W900. All three models will be available in undecorated black, white, red, blue,



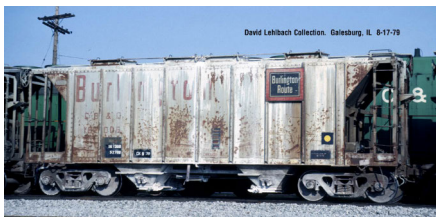
and yellow. Additionally, the Peterbuilt 379 will be available in a green scheme decorated for Koch Logging, and the Kenworth T800 will be decorated for Weyerhaeuser and Ireland

Trucking. Reservations for these models are due by October 31st, 2020, with an anticipated delivery date of Summer 2021. For more information visit www.train-worx.com.



Showcase Miniatures is selling a kit for a small, prefabricated gas station. The assembled N scale structure has a footprint of 1.85" x 1.25". For additional information visit www.showcaseminatures.net.

NEW DECALS, SIGNS AND FINISHING PRODUCTS



ICG Decals has released new HO scale silk-screen water-slide decals for CB&Q and BN models. Three decal sets are available for lettering a light gray Havelock-built CB&Q



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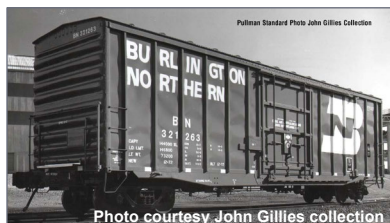
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twin-bay covered hopper including a placard herald, and a 1968 rebuild with a painted herald. InterMountain sells an HO model of the 1958 cu. ft. twin-bay covered hopper.



Also new from ICG are decals for the same hopper car with brown sides and ends. The roof and underframe, including the discharge bays, are black.



ICG has developed Burlington Northern decals for the new 50' PS boxcar kit available from Canon & Company (shop.cannonandco.net/category.sc?categoryId=21). The large logo is stretched, like the prototype, to compensate for

laying it across the car's exterior posts. Four different pairs of COTS are supplied with the ICG decal along with some BN reweigh and CAPY data from the 1970s-1980s.



New decals are also available for the simplified lettering scheme BN applied to a group of 500 cars Pullman Standard delivered in late 1972.



Also new are three variations of HO scale decals for ICG 40' and 50' orange boxcars dating from the early 1970s, and GATX decals for Tangent 8,000-gallon welded tank

cars. For additional information visit www.icgdecals.com.

Resin Car Works has HO scale decals to correctly letter an orange Illinois Terminal Class B freight motor. The set can also be used to partially letter other equipment painted in the



orange traction scheme. For additional information visit resincarworks.com.

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Bachmann has released four versions of its 2-6-2T Baldwin Trench Steam Engine with WOW sound. The On30 model is available in four paint schemes including a black unlettered version ...

ExactRail has released an HO scale Thrall 63' centerbeam flat car with opera window cutouts and numerous etched metal details. Multiple road numbers are available in six roadnames. Details at exactrail.com ...

Kadee's next release will be an HO scale ACF 11,000 gallon insulated tank car decorated for RTCX-Conservative Gas Corporation ...

Kato's recently announced N scale New York Central 20th Century Limited will be available with diesel power at the front end. For those preferring steam, **GHB International** is importing a 4-6-4 class J3a Dreyfus Hudson. The brass model will be produced in South Korea by Boo Rim Precision. Request details from George Barsky at geoghb@erols.com ...

New catalogs for N, S, and O scale products are available from **Tichy Train Group** at www.tichytraingroup.com/Catalogs.aspx. ■

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SEPTEMBER

Due to COVID-19 restrictions, please check with any organization hosting an in-person event for the latest status of the event. ■

Ongoing

ONLINE, Zoom, dates vary, see website. Operation Special Interest Group Meetups – limited attendance available. For more information visit www.opsig.org/Virtual. Past meets are available online at www.opsig.org/Virtual/Past.

October 2020

OHIO, CAMBRIDGE, October 18, Division 6 Model Railroad Train Show, presented by the MCR Buckeye Division, Pritchard Laughlin Center, 7033 Glenn Highway. For more information visit div6-mcr-nmra.org/trainshow.html.

ONLINE, 19-24 October, NMRA British Region – Virtual Convention 2020. Membership in the NMRA British Region required. For more information visit convention.nmrabr.org.uk.

November 2020

CANADA, ONTARIO, FENWICK, November 14-15, 21-22, Greater Niagara Model Railroad Engineers Open House, 1141 Maple Street. For more information visit www.gnmre.ca.



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INDIANA, DANVILLE, November 21, Danville Train Show, presented by the Central Indiana Division of the NMRA. Hendricks County Fairgrounds, corner of E. Main St. and County Road 200 E. Due to COVID-19 restrictions, Masks will be required, hand sanitizer stations provided, and contact tracing in effect. For more information visit www.cidnmra.org/services.

Future 2021-2022

CALIFORNIA, SANTA CLARA, July 4-11, 2021, Rails By the Bay, 2021 NMRA National Convention and National Train Show. Santa Clara Marriott Hotel. For more information visit www.nmra2021.com.

INDIANA, NOBELSVILLE, January 31, Noblesville Train Show, presented by the Central Indiana Division of the NMRA. 2003 Pleasant Street. For more information visit www.cidnmra.org/services.

INDIANA, FRANKLIN, May 15, Franklin Train Show, presented by the Central Indiana Division of the NMRA. Johnson County Fairgrounds. For more information visit www.cidnmra.org/services.

MISSOURI, St. LOUIS, tentatively September 2022, NMRA National Convention and National Train Show. ■



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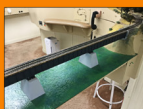
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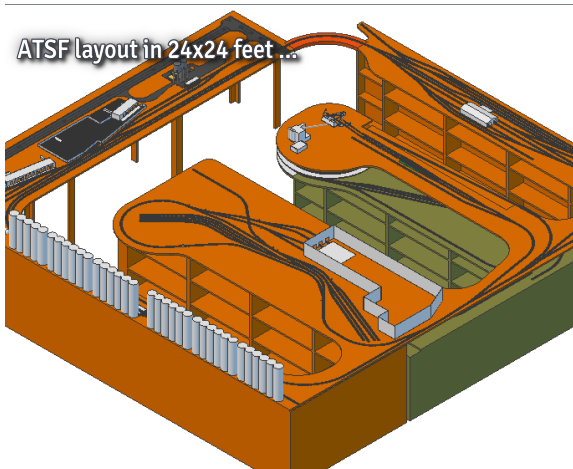
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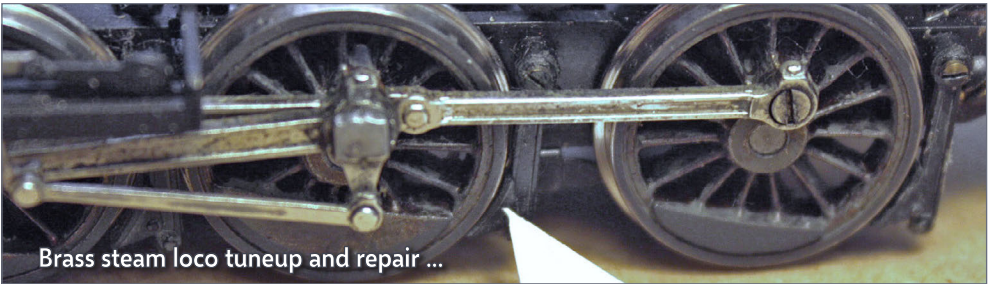
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